AN EXCLUSIVE: THE 1986 BOND FUND RATINGS / MADISON AVENUE

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BUSINESS MONTH

FORMERLY DUN'S BUSINESS MONTH

MAY 1987 $3.00

BETTER SURVIVORS
The Unhappy Sequel to Management Cutbacks

A NEW ERA OF ACTIVIST GOVERNMENT BEGINS

WHY CONSUMERS WILL KEEP SPENDING

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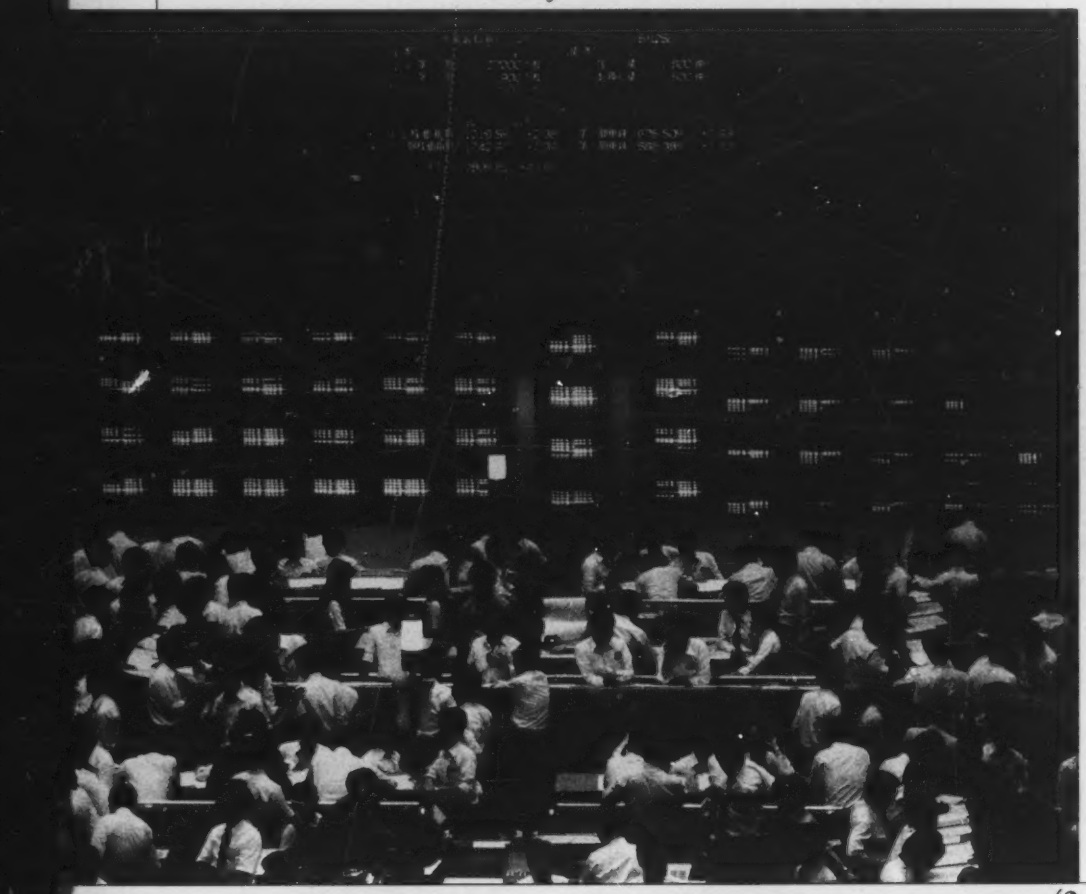

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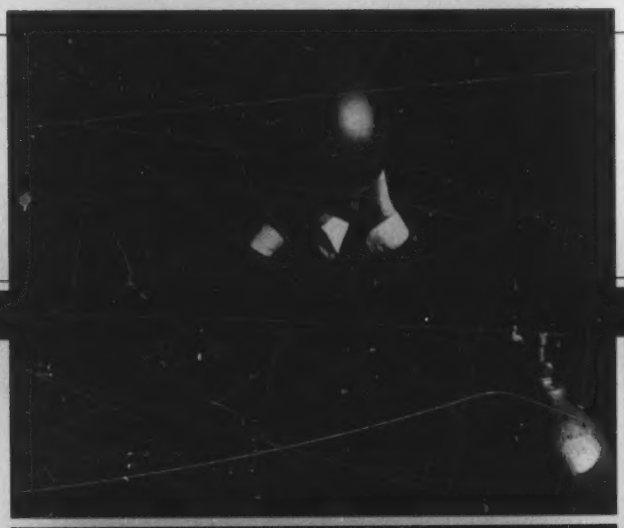

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COVER ILLUSTRATION BY GARY OVERACRE

Bond Funds: Can They Keep It Up?

With interest rates firming, 1986's torrid pace seems sure to slow. But bond funds may be 1987's best game. Plus BUSINESS MONTH's exclusive bond fund rankings.

by Mary Rowland

The stock market looks like it is running out of gas. Is this the time to stash dollars into bond funds? Or with interest rates inching up of late, should investors be bailing out of their bond fund holdings?

There's a lot of money riding on the answers to those questions. Last year, investors poured $161 billion into bond funds. And total fund assets stood at $271 billion at year-end, 56% more than the $152.6 billion in equity funds. For sure, bond prices are unlikely to rack up the spectacular 22% rise they piled on two years ago, or even the 15% they gained last year. With the economists forecasting at best only modest declines in rates this year, most portfolio managers figure they will be hard-pressed to match 1986's results. "This year we're going to have difficulty getting into the double digits," admits Vice President Charles P. Smith of T. Rowe Price.

Nevertheless, right now 7%, 8% and 9% returns in bonds look downright sexy compared with 5% and 6% money-market fund rates and the chances of stock prices climbing that much after soaring almost 27% in the first three months. And as the second annual "Business Month Bond Fund Ratings" reveal, if last year's results

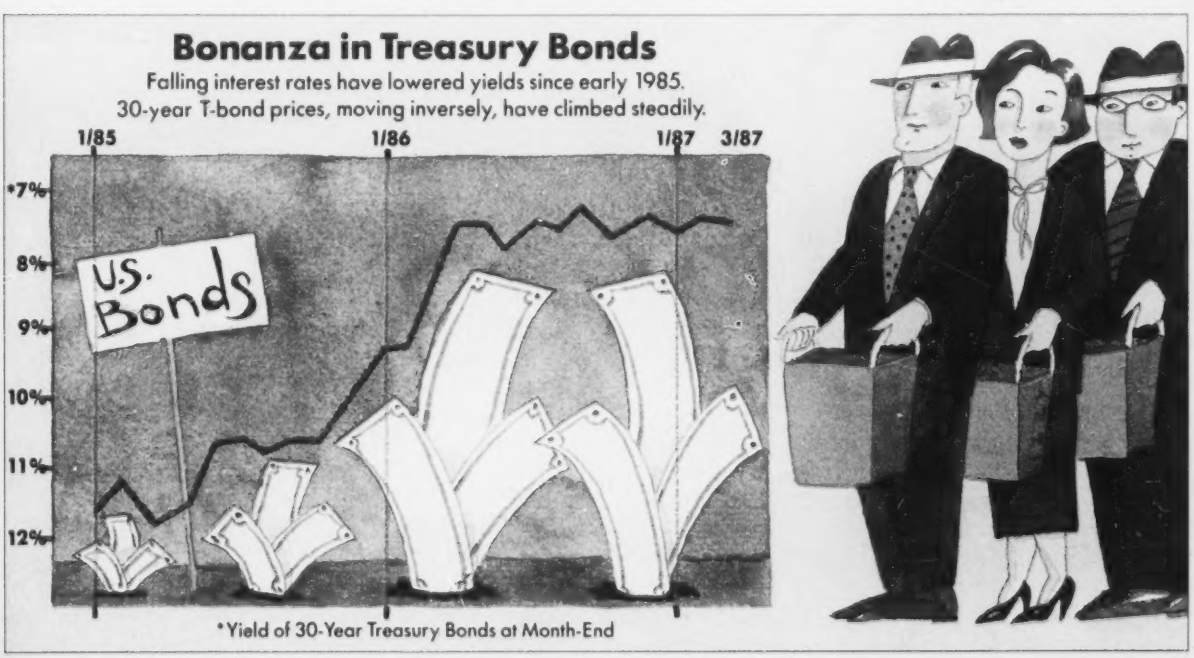


CHART ILLUSTRATION BY LIZZY ROCKWELL

DEMYSTIFYING BOND FUNDS: CHOOSING THE RIGHT ONE

Investors have gone bonkers over bond mutual funds. And with good reason. In the past five years, the average bond fund has doubled in value, outperforming savings accounts, money market funds and bank CDs.

For investors with less than $100,000 to invest, bond funds offer a stunning array of ways to tap the fixed-income market. Fund investments offer almost cash-equivalent liquidity, professional management and diversification, all for as little as $100 to start.

Bond mutual funds sell shares to individuals and invest the proceeds in a portfolio of bonds. The price of each fund share fluctuates depending on bond yields. When interest rates decline, the price of bonds rises, boosting the value of the portfolio and upping each share price proportionately. This appreciation combined with the bond income add up to the total return. Conversely, if bond yields rose from 7½% to 9½%, a $1,000 bond's price would drop to $774, a loss of $226.

There is a wide spectrum of credit risk among bonds. The safest are U.S. government bonds backed by the full faith and credit of the federal government. Then there are the thousands of municipalities and state tax-exempt issues, the most secure of them backed by the taxing powers of the local authority. Less secure are tax-free revenue bonds, which pay interest from the income of such local operations as hospitals, dormitories and toll bridges. The most dicey are higher-yield, lower-priced bonds issued by small, non-investment grade companies, the so-called junk bonds.

are used as a guide, seven in ten of the corporate bond funds did better than the 15.44% overall bond return measured by the Salomon Brothers Broad Investment Grade Index. But only one in two U.S. government funds outperformed the index.

BUSINESS MONTH, with the assistance of Lipper Analytical Services, ranked 311 taxable and tax-exempt funds in nineteen catgories by their performance in 1986. The tables also report three- and five-year results and each fund's record of capital gains and losses during periods of rising and falling prices compared to the average of all funds in its category. Funds that outpaced the averages during both of two bull market periods *(see tables)* are awarded a plus (+) and those that underperformed a minus (–). The same signs are used for two bear markets. If a fund outperformed in one bull or bear period and underperformed in the other, it is given a 0.

The rankings cover only funds that have been in existence since January 1, 1986. Included are all funds in thirteen categories: U.S. governments, Ginnie Maes, U.S. mortgages, general municipals, intermediate municipals, high-yield municipals and single-state municipals. In the other six categories, only the top ten performers are ranked. The rankings are based on each fund's total return (interest earned plus or minus capital gains or losses) excluding sales and management fees.

How did bond fund investors score last year? According to BUSINESS MONTH's rankings, the best performing fund in the taxable category was Benham Target Maturities Trust-2011, which returned 54.42%. Among tax-exempts, the best performer was Mutual of Omaha's Tax-Free Income Fund, which returned 24.63%.

The market-beaters succeeded by being in the right maturity at the right time. With declining interest rates firing the market, longer maturities did better than shorter ones.

Long-term Ginnie Mae funds, however, ran counter to the general rule. To take advantage of falling rates, homeowners prepaid on their mortgages, paring the maturities and results for Ginnie Maes last year. However, Peter W. Hegel, senior portfolio manager at Van Kampen Merritt, turned in the best peformance—14.17% total return—by playing the spread between Treasuries and Ginnie Maes. Early in the year, when the average spread between Treasuries and mortgage-backed securities widened, Hegel moved to Treasuries. Then, in late summer when the spread tightened, he invested up to 92% of the fund in mortgage-backed issues.

How should investors play the bond market this year? Conservatively, says Robert S. Dow, director of fixed-income investments at Lord, Abbett & Co. Inflation, which was driven down to 2% by tumbling oil prices in 1986, is expected to increase to about 4% this year. When inflation picks up, yields rise and bond prices go down. Some forecasters expected the long Treasuries, which yielded just over 7½% in March, to hit 8¼% by year-end. But they didn't expect it to happen by mid-April. Still, T. Rowe Price's Smith sticks to his 8¼% prediction for year-end. But he notes the market is dollar driven; "If the dollar remains under pressure, so will the bond market."

To buy bond fund shares, call a mutual fund company and ask for a prospectus. You can reinvest interest and capital gains payments or have interest payments sent to you monthly, quarterly or annually. In either case, you can transfer payments from your bank and you will get a monthly or quarterly statement.

There is a price for convenience, however. Some bond funds charge a sales commission (known as a load) that may run as high as 8.5%. In addition, most funds charge a 1%-to-2% fee to cover management, administrative costs and expenses. Also, watch out for funds that charge exit fees when you want out.

A multitude of funds are available, some of them investing in taxable Treasury and corporate issues, others buying tax-free municipal general obligation issues and/or tax-free revenue bonds. Within the taxable and tax-free categories, there are funds with varying investment objectives. The following suggestions may make the choice easier.

DO's

1. Pick the type of bond fund that is consistent with your willingness to risk your principal as well as your appetite for income and capital gains. The trade-offs: Shorter maturity bonds fluctuate less in price, but ordinarily offer lower yields; longer-term bonds are more volatile, but usually offer higher yields. In either maturity range, higher-quality issues will pay lower interest rates than riskier issues.
2. Compare the performances of similar funds during recent bull and bear markets. The BUSINESS MONTH rankings, for instance, cover 21 categories of bond funds by total return from income and capital gains or losses during 1986.
3. Ask yourself when you will need your principal back and match this time period with the appropriate bond fund maturity. While you can cash out at any time, if you sell when interest rates are rising, you will get a lower share price. Stick to short-term bond funds if you may need cash soon.
4. Check the safety or creditworthiness of the issues in the fund, especially in junk bond funds.
5. Check the investment policies in the prospectus to see whether the fund manager varies maturities according to his or her interest rate outlook or is restricted to a maturity category such as intermediate bonds.
6. Investigate the fund manager's experience as well as his investment strategy. Some funds follow much riskier strategies, while others are much more cautious.

DON'Ts

1. Don't buy a bond fund exclusively on the basis of yield. Look at the fund's long-term record of total return.
2. Don't buy a bond fund based on its track record alone unless it has stretched over good and bad markets. Remember, there is no guarantee that past performance will be repeated in the future.
3. Don't forget that a bond fund is not a savings account. You can lose part or all of your principal investment, if interest rates rise after you buy in.
4. Don't compare funds based on the yields or "total returns" advertised in the newspaper. Because there is no established standard, each company uses a different formula or time period to calculate both. You will probably have to ask for information that is not in the prospectus to calculate comparable yields.
5. After you calculate comparable numbers, don't buy a fund whose yield is very different from the competition without finding out the reason. ■

For those, however, who want to put some spice in their portfolios, there are a couple of new options:

☐ Several bond managers have introduced international funds, which they hope will mimic the performance of the high-flying international equity funds. These funds are a bet on the performance of foreign currencies. They generally invest in foreign government issues, so it's unlikely that the issuer will go broke. The biggest threat is a major rally in the dollar.

☐ The first bond index fund, introduced by Vanguard Bond Market Fund last December, permits individual investors to play interest rates. The theory behind index funds is that most professionally managed funds don't perform as well as the market as a whole, so why not put together a portfolio that is a proxy for the overall market. One big plus: no management fees, since there's no management function.

Vanguard uses the Salomon Brothers Broad Investment Grade Index as a proxy for the market. According to Brian Mattes, assistant vice president at Vanguard, "The index itself has beaten more than six out of ten active bond managers over the last six years. It's a very powerful competitor and tough to beat. And we expect to be able to operate for 25 cents for every $100 invested. The typical bond mutual fund is about four times that."

If interest rates stay steady, then well-managed bond funds may outperform stocks and money-market funds. But don't bet on it. Consider: What happens if the Japanese get the jitters and fall out of love with bonds or if inflation takes off? Then, be ready to move into short-term securities. ■

Mary Rowland writes on business and finance from New York City.

BUSINESS MONTH BOND FUND RANKINGS

An exclusive survey of 311 bond funds in 19 categories.

The tables rank all Ginnie Mae funds and U.S. mortgage funds; also all general, intermediate, high-yield and state municipal funds. In other categories, only the top ten performers are listed. Footnotes are on page 72.

TOTAL ASSETS (MILLIONS) 12/31/86	FUND	TOTAL RETURN 1 YEAR 12/31/85-12/31/86		TOTAL RETURN 3 YEARS 12/31/83-12/31/86		TOTAL RETURN 5 YEARS 12/31/81-12/31/86		BULL MARKET 7/86-12/86 9/85-3/86	BEAR MARKET 9/86-12/86 6/85-9/85	NET ASSET VALUE 12/31/86
U.S. GOVERNMENT FUNDS										
These funds invest exclusively in U.S. Treasury obligations.										
$4.8	**Benham Target Maturities Trust-2010** N (800)-227-8380, in CA (800)-982-6150	54.42%	1					0	–	$17.65
2.5	**First Investors U.S. Government Plus-I** (800)-423-4026, or (212)-809-9122	45.65	2					NR	NR	16.08
2.9	**Benham Target Maturities Trust-2005** N (800)-227-8380, in CA (800)-982-6150	42.24	3					0	–	23.74
5.2	**Benham Target Maturities Trust-2000** N (800)-227-8380, in CA (800)-982-6150	32.39	4					0	–	35.44
5.2	**Benham Target Maturities Trust-1995** N (800)-227-8380, in CA (800)-982-6150	26.38	5					0	0	54.33
171.4	**United Government** (800)-821-5664, or (816)-283-4000	16.80	6					+	0	5.65
39.9	**Capital Preservation Treasury Note Trust** N (800)-227-8380, in CA (800)-982-6150	16.43	7	54.33%	4	95.23%	8	+	0	11.04
5.9	**Benham Target Maturities Trust-1990** N (800)-227-8380, in CA (800)-982-6150	16.08	8					0	+	79.12
154.9	**Seligman U.S. Government Guaranteed Series** (800)-221-2450, in NY (800)-522-6869	16.08	9					0	–	8.15
3416.1	**Colonial Government Securities Plus Trust** (800)-225-2365, or (617)-426-3750	15.61	10					0	0	12.72
GINNIE MAE FUNDS										
These funds invest a minimum of 65% of their portfolio in Government National Mortgage Association securities.										
3043.2	**Kemper U.S. Government Securities** (800)-621-2414, or (312)-781-1121	16.24	1	59.62	1	123.42	1	0	0	9.90
937.0	**Fidelity Ginnie Mae Portfolio** N (800)-544-6666, or (617)-523-1919	13.00	2					NR	NR	10.81
6.6	**Decision Funds** N (800)-221-5672, in NY (800)-522-2323	12.66	3					0	0	11.03
7016.7	**Merrill Lynch Federal Securities Trust** (800)-221-4146, in NY (800)-522-5510	12.56	4					+	0	9.87
141.3	**Lexington GNMA Income** N (800)-526-0057	11.98	5	46.72	6	99.64	4	0	0	8.22
2214.1	**Vanguard Fixed Income Securities Fund** N **-GNMA Portfolio** (800)-662-7447	11.69	6	53.69	2	121.71	2	0	0	10.05
2563.1	**AARP GNMA and U.S. Treasury Fund** N (800)-253-2277	11.49	7					0	0	16.19
399.3	**John Hancock U.S. Govt. Guaranteed Mortgages** (800)-225-5291	11.44	8					0	0	10.72
334.7	**Benham GNMA Income Fund** N (800)-227-8380, in CA (800)-982-6150	11.27	9					NR	NR	10.44
3138.7	**Paine Webber Fixed Income-GNMA** Call local branch	11.02	10					+	–	10.21
1058.3	**Putnam U.S. Government Guaranteed Securities Trust** (800)-225-1581, or (617)-292-1000	11.01	11					0	+	14.71
317.5	**T. Rowe Price GNMA Fund, Inc.** N (800)-638-5660, or (301)-547-2308	10.98	12					NR	NR	10.23
2114.8	**Federated GNMA Trust** N (800)-245-5000, or (412)-288-1900	10.92	13	52.30	3			0	0	11.43
507.2	**Smith Barney U.S. Government** (212)-613-2631	10.91	14					0	+	13.89
14936.5	**Franklin U.S. Government Securities Fund** (800)-632-2350	10.74	15	50.07	4	118.58	3	0	0	7.42
284.8	**Prudential-Bache GNMA Fund** (800)-872-7787, or (212)-214-1234	10.69	16	47.68	5			0	–	15.94
59.4	**Delaware GNMA Series** (800)-523-4640, or (215)-988-1331	10.34	17					0	NR	9.27

1986

TOTAL ASSETS (MILLIONS) 12/31/86	FUND	TOTAL RETURN 1 YEAR 12/31/85-12/31/86		TOTAL RETURN 3 YEARS 12/31/83-12/31/86		TOTAL RETURN 5 YEARS 12/31/81-12/31/86		BULL MARKET 7/85-12/86 9/85-3/86	BEAR MARKET 9/86-12/86 6/85-9/85	NET ASSET VALUE 12/31/86
			Rank		Rank		Rank			
$421.7	**Drexel Government Securities Series** (800)-272-2700, or (212)-482-1623	10.25%	18					NR	NR	$10.70
446.4	**MFS Government Guaranteed Securities** (800)-343-2923, or (617)-423-3500	10.22	19					0	0	10.32
54.9	**L.G. U.S. Government Securities** (800)-543-8721, in OH (800)-582-7386	10.15	20					0	0	10.77
2178.2	**Dreyfus GNMA Fund Inc.** N (800)-645-6561, or (516)-794-5200	9.63	21					0	–	15.70
2.7	**Security Income Fund-U.S. Government Series** (800)-255-3557	9.09	22					0	NR	5.29
10.7	**Rushmore Fund-Ginnie Mae Portfolio** N (800)-343-3355	9.02	23					NR	NR	10.01
40.0	**Colonial Government Mortgage Trust** (800)-225-2365, or (617)-426-3750	8.83	24					0	0	14.36
11099.5	**Dean Witter U.S. Government Securities Trust** (800)-221-2665	8.23	25					0	0	10.33
293.7	**Pilgrim GNMA Fund** (201)-461-7500	6.61	26					0	–	15.33

U.S. MORTGAGE FUNDS

These funds invest a minimum of 65% of their portfolio in mortgages/securities issued or guaranteed as to principal and interest by the U.S. government.

4450.3	**Van Kampen Merritt Government** (800)-468-5400, or (312)-983-2064	14.17	1					0	0	16.57
246.3	**First Investors Government Fund** (800)-423-4026	12.51	2					0	+	12.19
9.1	**"New Beginning" Yield Fund, Inc.** N (612)-332-3223	11.84	3					–	+	11.03
14.2	**Mimlic Mortgage Securities Income Fund** (800)-328-8045, or (612)-298-3826	11.59	4					+	0	10.59
4045.9	**Prudential-Bache Government Plus Fund** (800)-872-7787, or (212)-214-1234	11.58	5					0	0	10.58
1534.1	**Shearson Managed Governments** (212)-577-7000	11.34	6					0	0	13.34
752.1	**Fidelity Mortgage Securities Fund** N (800)-544-8888, in MA (800)-225-6190	11.24	7					0	0	10.58
248.0	**Scudder Government Mortgage Securities** N (800)-225-2470	11.22	8					0	NR	15.50
756.6	**Alliance Mortgage Securities Income Fund** (800)-221-5672, in NY (800)-522-2323	11.10	9					0	–	9.74
66.1	**Bullock U.S. Government Income Shares** (800)-443-4430	10.18	10					0	–	12.49
7.1	**PDC&J Preservation Fund** N (513)-439-1010	10.07	11					0	0	11.42
207.4	**Home Investors Guaranteed Income** (800)-221-2644, or (212)-551-5313	9.60	12	45.99%	1			0	–	10.67
1107.6	**Fund for U.S. Government Securities** N (800)-245-4770	8.53	13	42.78	2	122.36%	1	0	0	8.62
59.8	**Seligman High Income-Secured Mortgage** (800)-221-2450, in NY (800)-522-6869	7.82	14					+	0	7.33

GENERAL MUNICIPAL FUNDS

These funds invest 60% or more of their assets in tax-exempt bonds issued by states and municipalities in the top four credit ratings.

252.1	**Mutual Omaha Tax-Free Income Fund** (800)-228-9596, in NE (800)-642-8112	24.63	1	65.35	4	139.05	18	+	+	11.69
1171.9	**Hutton National Municipal Fund** (212)-742-5432	22.45	2	67.31	2			0	0	11.97
130.2	**Financial Tax-Free Income Shares** N (800)-525-8085, in CO (800)-525-9769	22.11	3	63.74	5	135.03	26	+	0	15.59
441.0	**United Municipal Bond Fund** (800)-821-5664, in MO (800)-892-5811	22.05	4	66.79	3	146.13	13	+	0	7.18

TOTAL ASSETS (MILLIONS) 12/31/86	FUND	TOTAL RETURN 1 YEAR 12/31/85-12/31/86		TOTAL RETURN 3 YEARS 12/31/83-12/31/86		TOTAL RETURN 5 YEARS 12/31/81-12/31/86		BULL MARKET 7/86-12/86 9/85-3/86	BEAR MARKET 9/86-12/86 6/85-9/85	NET ASSET VALUE 12/31/86
			Rank		Rank		Rank			
$523.5	**Steinroe Managed Municipals** N (800)-621-0320, or (312)-368-7826	21.93%	5	67.53%	1	170.16%	3	+	–	$9.22
324.1	**DMC Tax-Free Income-USA** (800)-523-4640	21.84	6					0	+	11.78
133.5	**Seligman Tax-Exempt Fund National Series** (800)-221-2450, in NY (800)-522-6869	21.36	7					+	+	8.34
116.2	**New England Tax-Exempt Income** (800)-343-7104	21.22	8	61.71	6	158.60	5	+	–	7.74
281.5	**Cigna Municipal Bond Fund** (800)-225-5151	21.20	9	60.12	9	138.27	20	0	0	8.41
65.2	**Thomson McKinnon Tax-Exempt Fund** N (212)-482-5894	21.13	10					NR	NR	11.46
884.9	**IDS Tax-Exempt Bond Fund** (800)-328-8300	20.95	11	59.24	13	149.55	10	0	–	4.25
810.0	**Putnam Tax-Exempt Income Fund** (800)-225-1581	20.78	12	56.03	25	170.01	4	0	+	26.27
236.4	**Lutheran Brotherhood Municipal Bond Fund** (800)-328-4552, in MN (800)-752-4208	20.71	13	52.67	32	139.64	17	0	0	8.34
585.3	**Elfun Tax-Exempt Income Fund** N (203)-357-4104	20.67	14	51.75	36	188.03	1	+	0	11.45
341.7	**John Hancock Tax-Exempt Income Trust** (800)-225-5291	20.48	15	59.85	10	124.57	35	+	0	11.10
356.6	**Federated Tax-Free Income Fund** (800)-245-5000, in PA (800)-792-2340	20.37	16	51.25	38	143.35	16	0	0	10.72
86.0	**National Securities Tax-Exempt Bonds** (800)-223-7757	20.35	17	60.14	8	145.81	14	0	+	10.26
959.7	**Dean Witter Tax-Exempt Secs.** (800)-221-2685	20.10	18	59.32	11	147.90	12	+	–	11.50
1474.1	**T. Rowe Price Tax-Free Income Fund** N (800)-638-5660	19.81	19	50.08	42	110.51	37	0	0	10.07
132.2	**Oppenheimer Tax-Free Bond Fund** (800)-525-7048	19.75	20	60.76	7	170.18	2	0	0	9.81
418.6	**Van Kampen Merritt Ins. Tax-Free Income** (800)-468-5960, or (312)-983-2064	19.68	21					0	0	17.95
21.9	**Bull & Bear Tax-Free Income Fund** N (800)-847-4200, or (212)-785-0900	19.60	22					+	0	18.17
1154.0	**Fidelity Municipal Bond Portfolio** N (800)-554-6666, in MA (800)-225-6190	19.54	23	56.54	21	138.91	19	0	0	8.28
724.7	**Vanguard Municipal Bond Fund-Long Term** N (800)-662-7447, in PA (800)-362-0530	19.40	24	56.58	20	137.57	21	0	0	11.12
38.1	**Sears Tax-Exempt Reinvestment** N (800)-221-2685	19.33	25	56.34	22			+	0	11.85
226.6	**Lord Abbett Tax-Free-National** (800)-223-4224	19.30	26					0	–	11.23
721.4	**Nuveen Municipal Bond Fund** (800)-621-7210	19.09	27	57.17	19	128.71	33	0	+	8.96
1037.3	**Kemper Municipal Bond Fund** (800)-621-2414	19.08	28	59.16	14	157.18	6	–	+	9.81
2171.4	**Franklin Federal Tax-Free Income** (800)-632-2350	18.94	29	59.29	12			0	0	12.06
65.4	**State Farm Municipal Bond Fund** N (309)-766-2029	18.90	30	56.17	23	130.49	30	0	0	7.99
31.6	**Benham National Tax-Free Trust-Long-Term Portfolio** N (800)-227-8380, in CA (800)-982-6150	18.73	31					0	–	12.00
715.0	**Shearson Managed Municipal Fund** (212)-577-7000	18.72	32	56.16	24	145.58	15	0	+	15.58
302.0	**Tax-Exempt Bond Fund of America** (800)-421-9900	18.71	33	54.56	28	132.39	28	0	–	11.48
39.2	**DMC Tax-Free Income-U.S.A. Insured** (800)-523-4640	18.65	34					0	0	10.90
885.5	**Vanguard Municipal Bond Fund-Insured Long-Term Portfolio** N (800)-662-7447, in PA (800)-362-0530	18.62	35					0	0	11.86
22.1	**Kidder Peabody Tax-Free Income-National** (800)-543-3377, or (212)-510-5041	18.61	36					NR	NR	15.89
141.0	**Franklin Insured Tax-Free Income Fund** (800)-632-2350	18.58	37					0	–	11.87
54.1	**Eaton Vance Municipal Bond Fund** (800)-225-6265	18.57	38	57.87	17	153.51	7	0	+	9.25
145.3	**Fidelity Insured Tax-Free Portfolio** N (800)-544-6666, in MA (800)-225-6190	18.33	39					NR	NR	11.33
9.7	**Boston Company Tax-Free Bond Fund** N (800)-343-6324, or (617)-956-9740	18.30	40					NR	NR	11.68

TOTAL ASSETS (MILLIONS) 12/31/86	FUND	TOTAL RETURN 1 YEAR 12/31/85-12/31/86	Rank	TOTAL RETURN 3 YEARS 12/31/83-12/31/86	Rank	TOTAL RETURN 5 YEARS 12/31/81-12/31/86	Rank	BULL MARKET 7/86-12/86 9/85-3/86	BEAR MARKET 9/86-12/86 6/85-9/85	NET ASSET VALUE 12/31/86
$8.2	**Unified Municipal Fund, Inc.-General Series** N (800)-821-5664, in MO (800)-892-5811	18.27%	41					–	NR	$9.27
1019.8	**Keystone Tax-Free Fund** N (800)-225-2618, or (617)-338-3400	18.22	42	54.28%	30	133.29%	27	0	0	8.84
103.2	**Colonial Tax-Exempt Insured Fund** (800)-225-2365, or (617)-426-3750	18.18	43					NR	NR	7.94
23.7	**Babson Tax-Free Income Fund-Portfolio L** N (800)-821-5591, or (816)-471-5200	18.17	44	55.12	26	136.11	25	0	0	9.30
900.5	**MFS Managed Municipal Bond Trust** (800)-343-2923, or (617)-423-3500	17.98	45	57.27	18	151.67	8	0	+	10.63
195.9	**SAFECO Municipal Bond Fund** N (800)-624-5711, in WA (800)-624-5711	17.97	46	57.97	16	148.13	11	0	0	13.97
434.2	**Keystone Tax-Exempt Trust** N (800)-225-2618, or (617)-338-3400	17.72	47					NR	NR	11.34
3.5	**MidAmerica Tax-Exempt Bond Fund** (800)-553-4287, in IA (800)-342-4490	17.42	48					0	0	11.74
361.5	**Paine Webber Tax-Exempt Income** (800)-544-9300	17.41	49					–	0	11.39
82.0	**Calvert Tax-Free Reserves-Long-Term** N (800)-368-2748	17.36	50	50.10	41			0	0	16.36
3718.6	**Dreyfus Tax-Exempt Bond Fund** N (800)-645-6561, or (516)-794-5200	17.34	51	52.24	33	137.07	23	0	+	13.01
2236.0	**Merrill Lynch Municipal Bond-Insured** (800)-221-4146, in NY (800)-522-5510	17.24	52	52.07	35	128.55	34	–	0	8.18
901.8	**USAA Tax-Exempt-High-Yield Fund** N (800)-531-8000, in TX (800)-292-8181	17.20	53	54.83	27			0	+	13.79
10.2	**Country Capital Tax-Exempt Bond Fund** (309)-557-2444	17.18	54	50.31	40	120.61	36	0	–	8.54
54.2	**General Tax-Exempt Bond Fund** N (800)-223-5682	17.11	55					–	0	14.89
205.8	**Dreyfus Insured Tax-Exempt Bond Fund, Inc.** N (800)-645-6561 or (516)-794-5200	17.04	56					0	0	18.40
4.5	**United Services Tax-Free Fund** N (800)-531-5777	17.04	57					0	0	11.42
434.3	**Shearson Lehman Tax-Exempt Income** N (212)-577-7000	16.85	58					–	NR	17.2[illegible]
239.6	**Putnam Tax-Free Income-Insured** N (800)-225-1581, or (617)-292-1000	16.82	59					0	NR	14.55
664.6	**Scudder Managed Municipal Bonds** N (800)-225-2470	16.80	60	51.29	37	136.51	24	0	+	8.93
118.3	**Columbia Municipal Bond Fund** N (800)-547-1037	16.77	61					0	–	11.75
34.4	**Insured Quality Tax-Free Bond Portfolio** (800)-231-4545, in TX (800)-392-7802	16.75	62	52.62	31			0	–	11.40
3.6	**Decision Funds-Tax-Free Fund** N (800)-221-5672, in NY (800)-522-2323	16.67	63					0	–	11.08
14.9	**Sigma Tax-Free Bond Fund** (800)-441-9490	16.67	64	54.44	29	137.36	22	0	–	9.28
27.0	**State Bond Tax-Exempt Fund** (800)-328-4735	16.49	65					0	0	10.68
180.8	**American Capital Municipal Bond Fund** (800)-421-5666	16.33	66	58.30	15	149.78	9	0	+	21.23
166.2	**AARP Insured Tax-Free General Bond Fund** N (800)-253-2277	16.29	67					0	+	16.89
116.4	**Bullock Tax-Free Shares** (800)-443-4430	16.20	68	52.10	34	131.76	29	NR	NR	11.19
727.0	**First Investors Tax-Exempt Fund** (800)-423-4026	15.52	69	48.41	43	129.96	31	–	+	10.14
15.2	**Security Tax-Exempt Fund** (800)-255-3557	15.18	70					0	+	10.68

INTERMEDIATE MUNICIPAL FUNDS

These funds invest in tax-exempt bonds that have maturities in the range of two years to twenty years.

25.3	**UST Master Tax-Exempt Funds, Inc.** N (800)-773-1136	17.86	1					NR	NR	8.83
998.3	**Vanguard Municipal Bond Fund** N **-Intermediate** (800)-662-7447, in PA (800)-362-0530	16.22	2	49.35	1	108.47	1	0	–	12.29
1206.1	**Dreyfus Intermediate Tax-Exempt** N **Bond Fund** (800)-645-6561, or (516)-794-5200	15.43	3	43.97	3			0	0	14.12
578.2	**Fidelity Limited-Term Municipals** N (800)-544-6666, in MA (800)-225-6190	15.19	4	48.47	2	105.39	2	0	–	9.58

TOTAL ASSETS (MILLIONS) 12/31/86	FUND	TOTAL RETURN 1 YEAR 12/31/85-12/31/86		TOTAL RETURN 3 YEARS 12/31/83-12/31/86	Rank	TOTAL RETURN 5 YEARS 12/31/81-12/31/86	Rank	BULL MARKET 7/86-12/86 9/85-3/86	BEAR MARKET 9/86-12/86 6/85-9/85	NET ASSET VALUE 12/31/86
$21.2	**Scudder Tax-Free Target Fund-1990** N (800)-225-2470	15.06%	5					0	NR	$11.17
18.1	**Benham National Tax-Free-Intermediate** N (800)-227-8380, in CA (800)-982-6150	14.24	6					0	0	10.32
166.1	**Fidelity Tax-Free Limited Term Municipals** N (800)-544-6666, in MA (800)-225-6190	13.72	7					0	NR	10.86
117.7	**Scudder Tax-Free Target Fund-1993** N (800)-225-2470	13.38	8	40.73%	5			+	0	11.04
337.7	**USAA Tax-Exempt Fund, Inc.-Intermediate Term** N (800)-531-8000, in TX (800)-292-8181	13.18	9	43.17	4			+	–	12.35
173.8	**Benham Calif. Tax-Free Intermediate-Term** N (800)-227-8380, in CA (800)-982-6150	12.56	10	35.36	7			0	0	10.67
104.7	**Steinroe Intermediate Municipals, Inc.** N (800)-621-0320, or (312)-368-7826	12.14	11					NR	NR	10.76
9.4	**Fund for Tax-Free Investors,-Intermediate** N (301)-657-1500	12.06	12	37.62	6			0	–	10.74
112.8	**Federated Intermediate Municipal Trust** N (800)-245-5000, in PA (800)-792-2340	11.72	13					NR	NR	10.51
97.3	**Limited-Term Municipal Fund** (800)-847-0200, or (505)-984-0200	11.28	14					0	+	12.90
104.1	**Scudder Tax-Free Target Fund-1990** N (800)-225-2470	10.61	15	32.85	8			0	0	10.34
15.2	**Babson Tax-Free Income Fund-Portfolio S** N (800)-821-5591, or (816)-471-5200	10.41	16	32.64	9	65.99%	3	0	0	10.93
306.9	**T. Rowe Price Tax-Free Short Intermediate Fund** N (800)-638-5660	9.70	17	27.55	11			0	0	5.27
98.9	**Municipal Fund for Temporary Investors -Intermediate** N (800)-221-8120, or (212)-640-6155	9.47	18	26.11	12			0	0	10.44
249.1	**USAA Tax-Exempt Fund, Inc.-Short-Term** N (800)-531-8000, in TX (800)-292-8181	8.67	19	28.04	10			0	0	10.71
23.8	**Midwest Group Tax-Free Income Trust Limited Term** N (800)-543-8721, in OH (800)-582-7396	8.35	20	24.43	14	43.61	5	0	0	10.47
57.7	**AARP Insured Tax-Free Short-Term Bond Fund** N (800)-253-2277	8.31	21					–	0	15.64
189.5	**Calvert Tax-Free Reserves-Limited-Term** N (800)-368-2748	8.14	22	25.85	13	51.90	4	0	+	10.67
514.0	**Federated Short-Intermediate Municipal** N (800)-245-5000, in PA (800)-792-2340	7.59	23	22.55	18	42.60	6	0	+	10.38
693.6	**Merrill Lynch Municipal Bond Fund-Limited Maturity** (800)-221-4146, in NY (800)-522-5510	7.47	24	22.64	17	42.00	7	0	+	9.90
1051.4	**Vanguard Municipal Bond Fund-Short Term** N (800)-662-7447, in PA (800)-362-0530	7.39	25	22.66	16	41.96	8	0	+	15.44
35.5	**Scudder Tax-Free Target Fund-1987** N (800)-225-2470	6.63	26	24.20	15	-		NR	NR	10.03

HIGH-YIELD MUNICIPAL FUNDS

These funds invest in lower-rated tax-exempt bonds (frequently labeled junk bonds) for 50% of their portfolio.

227.9	**Van Kampen Merritt Tax-Free High Income** (800)-468-5900, or (312)-983-2064	21.55	1					0	NR	16.77
274.3	**T. Rowe Price Tax-Free High Yield Fund** N (800)-638-5660	20.40	2					0	0	11.92
3730.2	**IDS High-Yield Tax-Exempt Fund** (800)-328-8300	20.37	3	60.32	2	150.77	1	0	–	4.69
901.7	**Vanguard Municipal Bond-High Yield** N (800)-662-7447, in PA (800)-362-0530	19.70	4	59.77	3	139.67	5	+	0	10.67
49.8	**GIT Tax-Free Trust-High Yield** N (800)-336-3063, in VA (800)-572-2050	19.36	5	51.31	6			0	–	11.45
1808.2	**Merrill Lynch Municipal Bond Fund-High Yield** (800)-221-4146, in NY (800)-522-5510	19.08	6	58.18	5	140.21	4	0	0	10.67
2279.3	**Fidelity High-Yield Municipals** N (800)-544-6666, in MA (800)-225-6190	18.89	7	58.64	4	142.88	3	+	0	13.29
225.4	**SteinRoe High-Yield Municipals** N (800)-621-0320, or (312)-368-7826	18.80	8					–	+	12.06
1103.5	**Prudential-Bache High-Yield Municipals** (800)-872-7787	18.70	9	60.62	1	145.98	2	0	0	16.18
392.5	**Fidelity Aggressive Tax-Free Portfolio** N (800)-544-6666, in MA (800)-225-6190	17.74	10					0	NR	11.56
482.6	**Putnam Tax-Free Income-High Yield** N (800)-225-1581, or (617)-292-1000	17.64	11					0	NR	14.32
354.4	**Fidelity New York Tax-Free Fund-High Yield** N (800)-544-6666, in MA (800)-225-6190	16.79	12					0	–	12.26
1354.0	**Colonial Tax-Exempt High-Yield Trust** (800)-225-2365, or (617)-426-3750	15.87	13	36.59	7	90.35	6	–	+	13.73

TOTAL ASSETS (MILLIONS) 12/31/86	FUND	TOTAL RETURN 1 YEAR 12/31/85-12/31/86		TOTAL RETURN 3 YEARS 12/31/83-12/31/86		TOTAL RETURN 5 YEARS 12/31/81-12/31/86		BULL MARKET 7/86-12/86 9/85-3/86	BEAR MARKET 9/86-12/86 6/85-9/85	NET ASSET VALUE 12/31/86
			Rank		Rank		Rank			
$259.4	Value Line Tax-Exempt Fund-High Yield (800)-223-0818	13.67%	14					0	0	$10.81
780.2	Eaton Vance High-Yield Municipals Trust (800)-225-6265	12.88	15					NR	NR	10.41
423.3	MFS Managed High-Yield Municipal Bond (800)-343-2923, or (617)-423-3500	12.32	16					0	+	10.31
143.1	Principal Preservation Tax-Exempt Fund (800)-558-1775, or (414)-294-5521	4.96	17					NR	NR	8.81

CALIFORNIA MUNICIPAL FUNDS

These funds invest in tax-exempt bonds issued by localities in the State of California.

51.5	MFS Managed California Tax-Exempt Trust (800)-343-2923, or (617)-423-3500	21.23	1					–	0	5.26
125.1	Franklin California Insured Tax-Free Income (800)-632-2350	20.63	2					0	+	11.79
12.3	Van Kampen Merritt California Insured Tax-Free (800)-468-5900	19.97	3					NR	NR	16.27
233.5	Bonham California Tax-Free Trust-Long-Term (800)-227-8380, in CA (800)-982-9150	19.23	4	48.69%	7			0	0	11.49
153.6	Paine Webber California Tax-Exempt Income Fund (800)-544-9300	19.19	5					NR	NR	11.18
57.6	Lord Abbett California Tax-Free Income (800)-223-4224	18.92	6					0	NR	10.69
58.8	Seligman California Tax-Exempt High Yield (800)-221-2450, in NY (800)-522-6669	18.91	7					+	+	6.57
32.3	SAFECO California Tax-Free Income Fund, Inc. (800)-624-5711, in WA (800)-643-4360	[illegible]	8					0	–	12.02
98.5	Pacific Horizon Funds-Calif. Tax-Exempt Bond Portfolio (800)-645-3515	18.45	9					0	0	14.45
61.5	Seligman California Tax-Exempt-Quality (800)-221-2450, in NY (800)-522-6669	18.38	10					0	–	6.78
214.6	Kemper California Tax-Free Income Fund (800)-621-2414	18.35	11	55.96	1			–	+	7.30
357.2	Dean Witter California Tax-Free Income (800)-221-2685	18.32	12					+	–	12.25
1009.3	Putnam California Tax-Exempt Income (800)-225-1581, or (617)-292-1000	18.29	13	53.12	3			–	+	15.96
184.3	Shearson California Municipals (212)-577-7000	18.08	14					+	0	16.18
85.4	National Securities California Tax-Exempt Bonds (800)-223-7757	17.87	15	50.08	5			0	0	13.20
587.8	Merrill Lynch California Tax-Exempt Fund (800)-221-4146, in NY (800)-522-5510	17.83	16					0	0	11.63
1305.3	Dreyfus California Tax-Exempt Bond (800)-645-6561, or (516)-794-5200	17.73	17	45.91	9			0	0	15.47
578.9	Fidelity California Tax-Free High Yield (800)-544-8666, in MA (800)-225-6190	17.53	18					0	–	11.80
193.4	Hutton California Municipal Fund (212)-742-5432	17.44	19	51.51	4			0	0	11.08
131.4	Prudential-Bache California Municipal (800)-872-7787	16.96	20					0	0	11.54
175.3	Scudder California Tax-Free Fund (800)-225-2470	16.91	21	48.24	8			0	0	11.01
7662.3	Franklin California Tax-Free Income (800)-632-2350	16.47	22	49.77	6	101.29%	1	0	+	7.22
23.5	Voilock Insured California Tax-Exempt Shares (800)-443-4430	16.01	23					NR	NR	13.06
156.3	Eaton Vance California Municipal Trust (800)-225-6265	14.97	24					NR	NR	10.68
4.8	California Municipal Fund (800)-227-1540	9.81	25					0	+	9.23

MASSACHUSETTS MUNICIPAL BOND FUNDS

These funds invest in tax-exempt bonds issued by localities in the State of Massachusetts.

84.5	Dreyfus Mass. Tax-Exempt Bond Fund (800)-645-6561, or (516)-794-5200	17.92	1					0	–	16.75
227.6	MFS Managed Tax-Exempt Trust-Massachusetts (800)-343-2923, or (617)-423-3500	17.62	2					0	NR	11.02

TOTAL ASSETS (MILLIONS) 12/31/86	FUND	TOTAL RETURN 1 YEAR 12/31/85-12/31/86	Rank	TOTAL RETURN 3 YEARS 12/31/83-12/31/86	Rank	TOTAL RETURN 5 YEARS 12/31/81-12/31/86	Rank	BULL MARKET 7/86-12/86 - 9/85-3/86	BEAR MARKET 9/86-12/86 - 6/85-9/85	NET ASSET VALUE 12/31/86
$724.1	**Fidelity Mass. Tax-Free-Municipal Bond** M (800)-544-6666, in MA (800)-225-6190	16.89%	3	51.70%	1			0	0	$11.66
15.2	**Boston Company Mass. Tax-Free Bond** M (800)-343-6324	16.61	4					0	NR	11.43
37.7	**Prudential-Bache Massachusetts Municipal** M (800)-872-7787	16.19	5					0	+	11.39
142.5	**Seligman Tax-Exempt-Massachusetts** (800)-221-2450, in NY (800)-522-6869	16.10	6					0	0	8.03
48.2	**Investment Trust of Boston-Massachusetts Tax-Free** (800)-451 0502, or (617)-542-0213	15.94	7					0	0	16.83
61.3	**Franklin Massachusetts Insured Tax-Free Income** (800)-632-2350	14.69	8					+	-	11.25

MICHIGAN MUNICIPAL FUNDS

These funds invest in tax-exempt bonds issued by localities in the State of Michigan.

72.7	**Flagship Tax-Exempt Funds Trust-Michigan Double Tax-Exempt** (800)-227-4648, in OH (800)-354-7447	20.22	1					-	NR	10.77
126.7	**Fidelity Michigan Tax-Free Portfolio** M (800)-544-6666, or MA (800)-225-6190	18.91	2					NR	NR	11.38
37.9	**Prudential-Bache Municipal-Michigan** M (800)-872-7787	18.88	3					+	0	11.46
111.7	**Seligman Tax-Exempt-Michigan** (800)-221-2450, in NY (800)-522-6869	18.34	4					0	0	8.37
186.6	**Franklin Michigan Insured Tax-Free Income** (800)-632-2350	17.34	5					0	-	11.54

MINNESOTA MUNICIPAL FUNDS

These funds invest in tax-exempt bonds issued by localities in the State of Minnesota.

94.7	**Franklin Minnesota Insured Tax-Free Income** (800)-632-2350	17.57	1					0	-	11.87
93.1	**Fidelity Minnesota Tax-Free Portfolio** M (800)-544-6666, in MA (800)-225-6190	17.04	2					NR	NR	10.99
12.3	**Prudential-Bache Municipal-Minnesota** M (800)-872-7787	16.84	3					0	0	11.48
118.7	**Seligman Tax-Exempt-Minnesota** (800)-221-2450, in NY (800)-522-6869	16.20	4					+	0	7.90
106.5	**Double Exempt Flex Fund** (800)-662-0804	15.67	5					0	+	11.85

NEW YORK STATE MUNICIPAL FUNDS

These funds invest in tax-exempt bonds issued by localities in the State of New York.

863.1	**Putnam New York Tax-Exempt Income Fund** (800)-225-1581, or (617)-292-1000	18.45	1	57.56	1			0	+	17.37
217.4	**Shearson New York Municipals** (212)-577-7000	18.10	2					0	0	16.71
79.3	**Seligman Tax-Exempt-New York** (800)-221-2450, in NY (800)-522-6869	17.76	3					0	0	8.24
2421.0	**Franklin New York Tax-Free Income Fund** (800)-632-2350	17.74	4	57.06	2			+	0	11.64
260.1	**New York Muni Fund, Inc.** M (800)-277-1549, or (212)-422-7490	17.66	5	53.00	4	106.56%	1	+	0	1.25
113.0	**Dean Witter New York Tax-Free Income Fund** M (800)-221-2685	17.64	6					-	0	11.57
291.6	**Prudential-Bache Municipal-New York** M (800)-872-7787	17.49	7					0	0	11.74
57.6	**Oppenheimer New York Tax-Exempt Fund** (800)-525-7048	17.36	8					0	0	12.68
158.2	**Fidelity New York Tax-Free Fund-Insured Portfolio** M (800)-544-6666, in MA (800)-225-6190	17.33	9					NR	NR	11.28
260.3	**Nation New York Municipal Fund** (800)-742-5432	17.24	10	54.97	3			0	0	11.32
1646.9	**Dreyfus New York Tax-Exempt Bond Fund** M (800)-645-6561, or (516)-794-5200	17.07	11	52.63	5			0	-	15.89
83.3	**First Investors New York Tax-Free Fund** (800)-423-4026	17.03	12					0	0	14.25
599.4	**Merrill Lynch New York Municipal Bond** (800)-221-4146, in NY (800)-522-5510	16.97	13					NR	NR	11.24
107.5	**Lord Abbett Tax-Free-New York** (800)-223-4224	16.62	14					0	-	11.29
10.8	**Kidder Peabody Tax-Free Income-New York** (800)-543-9377	15.99	15					NR	NR	15.64

TOTAL ASSETS (MILLIONS) 12/31/86	FUND	TOTAL RETURN 1 YEAR 12/31/85-12/31/86	Rank	TOTAL RETURN 3 YEARS 12/31/83-12/31/86	Rank	TOTAL RETURN 5 YEARS 12/31/81-12/31/86	Rank	BULL MARKET 7/86-12/66 9/85-3/86	BEAR MARKET 9/86-12/86 6/85-9/85	NET ASSET VALUE 12/31/86
$38.9	**Empire Builder Tax-Free Bond Fund** (800)-451-3502, or (617)-542-0213	15.48%	16					0	0	$17.72
137.6	**Scudder New York Tax-Free Fund** N (800)-225-2470	14.28	17	45.01%	6			0	0	11.31
63.1	**Park Avenue New York Tax-Exempt Intermediate** N **Bond Fund** (800)-645-6561, or (516)-794-5200	14.20	18					–	+	19.05
4.0	**Tax-Free Bond Portfolio-New York** N (800)-621-1048	12.62	19					NR	NR	10.25
OHIO MUNICIPAL FUNDS										
These funds invest in tax-exempt bonds issued by localities in the State of Ohio.										
132.7	**Flagship Tax-Exempt Funds Trust-Ohio Double Tax-Exempt** (800)-227-4648, in OH (800)-354-7447	17.48	1					–	NR	10.60
155.9	**Franklin Ohio Insured Tax-Free Income** (800)-632-2350	17.31	2					0	–	11.53
125.1	**Seligman Tax-Exempt-Ohio** (800)-221-2450, in NY (800)-522-6869	17.04	3					0	0	8.15
14.8	**Midwest Group Tax-Free Trust, Ohio** N **Long Term Portfolio** (800)-543-8721, in OH (800)-582-7396	16.55	4					0	0	11.41
106.3	**Fidelity Ohio Tax-Free Portfolio** N (800)-544-6666, in MA (800)-225-6190	16.46	5					NR	NR	10.97
65.3	**Prudential-Bache Municipal-Ohio** N (800)-872-7787	15.54	6					0	0	11.59
STATE MUNICIPAL FUNDS										
These funds invest in tax-exempt bonds issued by localities in a single state.										
12.0	**Unified Municipal Fund-Indiana Series** N (800)-862-7283	19.02	N/A					0	NR	9.33
368.2	**DMC Tax-Free Income Trust-Pennsylvania** (800)-523-4640	18.30		54.11		138.97%		0	0	8.05
11.5	**Oregon Municipal Bond** (503)-223-2086	17.70						0	0	12.10
33.7	**Prudential-Bache Municipal-North Carolina** N (800)-872-7787	17.45						0	0	11.28
97.5	**MFS Managed Tax-Exempt Trust-North Carolina** (800)-343-2923, or (617)-423-3500	17.28						0	0	11.53
27.4	**Prudential-Bache Municipal-Georgia** N (800)-872-7787	16.94						0	–	11.70
45.3	**Prudential-Bache Municipal-Arizona** N (800)-872-7787	16.83						0	–	11.45
56.4	**Kentucky Tax-Free Income** N (800)-432-9518	16.77		46.23		92.48		–	+	6.96
51.4	**Seligman Tax-Exempt-Louisiana** (800)-221-2450, in NY (800)-522-6869	16.73						NR	NR	7.98
77.4	**MFS Managed Tax-Exempt Trust-Maryland** (800)-343-2923, or (617)-423-3500	16.57						–	+	11.01
25.0	**MFS Managed Tax-Exempt Trust-South Carolina** (800)-343-2923, or (617)-423-3500	16.42						0	+	11.34
31.7	**MFS Managed Tax-Exempt Trust-West Virginia** (800)-343-2923, or (617)-423-3500	16.25						–	+	11.10
170.5	**MFS Managed Tax-Exempt Trust-Virginia** (800)-343-2923, or (617)-423-3500	15.79						0	0	11.12
10.5	**Prudential-Bache Municipal-Oregon** N (800)-872-7787	15.18						–	0	11.42
156.9	**Hawaiian Tax-Free Trust** (800)-228-4227, or (212)-697-6666	14.95						0	0	11.09
1.9	**Rhode Island Tax-Free Bond** (800)-633-3421	14.73						NR	NR	10.79
29.2	**Prudential-Bache Municipal-Maryland** N (800)-872-7787	14.44						0	–	10.95
3.6	**Principal Arizona Tax-Free** (602)-998-5557	13.88		43.01				–	+	5.58
52.3	**Seligman Tax-Exempt-Maryland** (800)-221-2450, in NY (800)-522-6869	13.62						NR	NR	7.76
12.7	**Franklin Puerto Rico Tax-Free Income Fund** (800)-632-2350	8.60						0	0	11.23
GENERAL CORPORATE FUNDS										
These funds invest in corporate bonds of varying investment grades.										
1912.8	**IDS Bond Fund** (800)-328-8300	19.51	1	60.60	5	151.75	3	0	0	5.30

TOTAL ASSETS (MILLIONS) 12/31/86	FUND	TOTAL RETURN 1 YEAR 12/31/85-12/31/86	Rank	TOTAL RETURN 3 YEARS 12/31/83-12/31/86	Rank	TOTAL RETURN 5 YEARS 12/31/81-12/31/86	Rank	BULL MARKET 7/86-12/86 9/85-3/86	BEAR MARKET 9/86-12/86 6/85-9/85	NET ASSET VALUE 12/31/86
$364.9	**IDS Life Special Income Fund** N (800)-328-8300	18.91%	2					+	NR	$12.03
623.7	**General Electric S&S Long-Term Interest** N (203)-357-4104	18.29	3	67.35%	2	146.16%	4	0	0	12.42
93.2	**IMA Investment Securities** closed-end fund	16.67	4	64.36	4	136.49	7	0	-	19.58
217.2	**InterCapital Income Securities** closed-end fund	16.46	5	65.50	3	153.22	2	0	+	20.65
16.4	**New England Zenith Bond Inc.** N (617)-578-4477	15.85	6	54.83	11			0	0	123.45
10.9	**Maxim Bond** N (800)-537-2033 ext. 4345	15.51	7	55.68	9			0	-	1.27
48.8	**Boston Company Managed Income Fund** N (800)-343-6324, or (617)-956-9740	15.11	8	57.12	8	102.77	13	0	+	11.91
53.9	**Drexel Bond-Debenture Trading** (800)-272-2700	14.70	9	69.55	1	158.04	1	0	-	21.18
75.7	**CMA Income Shares** closed-end fund	14.56	10	59.01	6	137.82	6	0	0	11.89
CORPORATE FUNDS A-RATED										
These funds invest 60% of their corporate holdings in A-rated issues or better.										
419.7	**Hutton Investment Series-Bond & Income** (212)-742-5432	19.43	1	73.29	2			0	-	12.95
109.0	**Fort Dearborn Income Securities** closed-end fund	18.79	2	80.80	1	170.46	1	0	-	15.98
23.0	**Sentinel Bond Fund** (800)-233-4332	16.00	3	54.91	17	117.64	16	+	-	6.58
27.8	**Bond Portfolio for Endowments** N (800)-421-9900	15.74	4	60.82	7	131.73	7	0	0	943.63
46.2	**Bunker Hill Income Securities** (213)-229-1290	15.50	5	53.32	20	124.34	11	0	0	18.08
26.4	**Phoenix High Quality Bond Fund** N (800)-243-1574	15.29	6	54.19	18			0	0	10.21
339.8	**United Bond Fund** (800)-821-5664, in MO (800)-892-5811	15.25	7	62.50	6	148.41	2	0	0	6.42
694.3	**Bond Fund of America** (800)-421-9900	15.17	8	63.37	4	138.05	4	+	+	14.21
7.9	**Scudder Target Fund-General 1994** N (800)-225-2470	14.65	9					-	+	11.92
220.3	**Kemper Income & Capital Preservation Fund** (800)-621-2414	14.57	10	56.80	11	133.39	6	-	0	9.08
CORPORATE FUNDS BBB-RATED										
These funds invest 60% of their corporate holdings in the top four grades of bonds.										
24.7	**Financial Bond Shares-Select Income** N (800)-525-8085, in CO (800)-525-9769	18.89	1	53.52	12	110.68	12	0	0	7.10
1201.4	**IDS Selective** (800)-328-8300	18.04	2	58.98	8	155.96	1	0	+	9.08
1.2	**Horace Mann Income Fund Inc.** N (217)-789-2500	17.33	3					0	0	13.96
127.2	**IDS Strategy Fund-Income Portfolio** (800)-328-8300	17.14	4					0	0	6.22
128.0	**MAS Fixed Income** N (215)-668-0650	16.68	5					+	0	29.43
49.6	**Axe-Houghton Income** N (914)-631-8131	16.06	6	69.69	1	139.12	4	0	0	5.60
200.8	**Steinfloe Managed Bonds** N (800)-621-0320, or (312) 368-7826	16.00	7	59.68	6	117.11	8	+	0	9.26
73.4	**Guardian Bond Fund** N (800)-221-3253, in NY (800) 522-7800	14.84	8	58.85	9			0	0	12.41
550.1	**Paine Webber Fixed-Income-Investment Grade** (800)-544-9300	14.33	9					+	-	10.75
697.8	**Vanguard Fixed-Income Securities** N **-Investment Grade** (800)-662-7447, in PA (800)-362-0530	14.33	10	59.09	7	118.67		NR	NR	8.73
CORPORATE FUNDS BBB-RATED-TRADING										
These funds invest 60% of their corporate holdings in the top four grades of bonds. They may turn their portfolios over more than 100% a year in an attempt to increase the returns.										
92.9	**Vestaur Securities** closed-end fund	23.10	1	83.75	1	173.24	2	0	0	14.56
48.4	**Current Income Shares** closed-end fund	19.91	2	83.34	2	185.27	1	0	0	13.18

TOTAL ASSETS (MILLIONS) 12/31/86	FUND	TOTAL RETURN 1 YEAR 12/31/85-12/31/86	Rank	TOTAL RETURN 3 YEARS 12/31/83-12/31/86	Rank	TOTAL RETURN 5 YEARS 12/31/81-12/31/86	Rank	BULL MARKET 7/86-12/86 9/85-3/86	BEAR MARKET 9/86-12/86 6/85-9/85	NET ASSET VALUE 12/31/86
$96.9	**Pacific American Income Shares** closed-end fund	15.69%	3	68.80%	3	151.03%	3	0	0	$16.92
333.4	**Massachusetts Financial Bond** (800)-343-2923	15.56	4	62.94	7	140.51	7	0	+	14.66
145.9	**Criterion Bond Investment Quality** (800)-231-4645, in TX (800)-392-7802	15.45	5	60.15	8	126.35	8	+	–	10.14
54.1	**Natteras Income Securities** closed-end fund	15.03	6	64.07	5	145.31	6	0	+	17.94
155.0	**John Hancock Income Securities** (800)-225-5291	14.63	7	64.37	4	146.80	4	0	0	16.90
125.5	**Merrill Lynch Corporate Bond-Intermediate** (800)-221-4146, in NY (800)-522-5510	14.34	8	56.26	9	116.68	11	–	0	11.87
113.7	**AMEV Securities** (800)-872-2638	14.00	9	54.89	10	119.63	10	0	–	11.21
159.5	**Montgomery Street Income** closed-end fund	13.99	10	63.86	6	146.16	5	0	0	19.93

HIGH-YIELD CORPORATE FUNDS

These funds may invest in corporate bonds of below investment grade ratings (frequently labeled junk bonds). They emphasize high current yield.

23.1	**First Investors Special Bond Fund** (800)-423-4026	19.26	1	63.65	1			0	+	14.55
229.6	**Investment Portfolio-High Yield** (800)-621-2414	18.71	2					0	0	9.83
11.0	**Liberty Fund N** (800)-367-0770, or (212)-850-8300	18.32	3	51.61	13	114.56	18	–	0	4.73
384.1	**Kemper High-Yield Fund** (800)-621-2414	18.26	4	60.38	3	163.25	1	0	0	11.45
1671.8	**Fidelity High-Income Fund N** (800)-544-6666, in MA (800)-225-6190	17.94	5	63.62	2	162.90	2	0	0	9.72
1251.9	**Vanguard Fixed-Income Securities-High Yield N** (800)-662-7447, in PA (800)-362-0530	16.86	6	53.76	8	125.59	12	0	0	9.20
1705.1	**Dean Witter High-Yield Securities** (800)-221-2685	16.80	7	51.77	12	136.95	6	0	0	14.11
3.0	**Fundtrust High-Yield Fund** (800)-845-8406, or (212)-309-8400	16.64	8					NR	NR	10.38
266.4	**Delchester Bond Fund** (800)-523-4640	16.56	9	57.29	4	144.13	4	0	0	8.05
960.7	**IDS Extra Income Fund** (800)-328-8300	16.41	10	53.44	9			0	–	5.16

CONVERTIBLE SECURITIES FUNDS

These funds invest in convertible bonds and convertible preferred stocks.

196.5	**Dreyfus Convertible Securities Fund N** (800)-645-6561, or (516)-794-5200	24.57	1	66.23	1	136.21	4	–	+	8.87
111.3	**Phoenix Convertible Fund** (800)-243-4631	17.24	2	49.83	4	156.93	1	0	0	17.44
74.5	**Value Line Convertible Fund N** (800)-223-0818	16.27	3					0	0	11.53
18.1	**Noddings Calamos Convertible Funds-Income N** (800)-251-2411, in IL (800)-821-6548	16.14	4					0	0	11.23
917.7	**Putnam Convertible Income-Growth** (800)-225-1581, or (617)-292-1000	15.90	5	55.29	2	130.75	5	0	0	16.24
9.3	**Noddings Calamos Convertible Funds-Growth N** (800)-251-2411, in IL (800)-821-6548	15.61	6					–	0	11.10
82.0	**American Capital Convertible Securities** (800)-421-5666	14.85	7	49.09	5	154.27	2	+	0	27.33
82.0	**American Capital Convertible Securities** (800)-421-5666	14.85	7	49.09	5	154.27	2	+	0	27.33
316.7	**American Capital Harbor** (800)-421-5666	13.73	8	35.07	6	145.70	3	0	0	13.43
1587.0	**Dean Witter Convertible Securities** (800)-221-2685	13.66	9					NR	NR	11.03
57.8	**Bancroft Convertible Fund** closed-end fund	12.58	10	52.05	3	101.36	7	0	0	25.66

Footnotes: N after a fund name means there is no sales charge; NA mean not applicable. NR means the fund was not rated.
Definitions: Total Return is the increase in a fund's net asset value from interest income and capital gains or losses. Bull Market is a period of rising bond prices (and falling interest rates). Bear Market is a period of falling bond prices (and rising interest rates). Plus (+) means the fund outperformed the average of all funds in the same category during the periods indicated. Minus (–) means the fund underperformed the average of all funds in the same category during the periods indicated. 0 means that the fund outperformed in one period and underperformed in the other.
Source: Lipper Analytical Services

Solving Today's Personal Computer Riddles

Corporate users of personal computers and software are being forced to reassess their computing needs and rethink their buying strategies by dramatic and fast-paced changes in microprocessor-based technology. "New products will make quantum leaps in how PCs are used," says Michele S. Preston, vice president at the New York-based investment banking firm Salomon Brothers, "and the corporate user who has figured out his PC strategy stands to benefit from these advances."

While new products abound in the PC hardware and software field, the market is also being impacted by the abundance of PC compatibles being offered; the acceptance of the PC AT as a standard in the business community; new software developments and the emergence of new technologies such as expert systems and desktop publishing.

Here's a look at each of these developments and how corporate users are reacting to them.

Buying a PC Today: Chance for Savings, But Time for Caution

The PC corporate market has largely been the preserve of IBM. But over 175 different compatible manufacturers now deluge the market, outstripping IBM U.S. sales in 1986 by almost 500,000 machines—the first such year in what is likely to become a trend. Many of these compatibles not only are cheaper than the IBM machines, but they perform just as well, making them an attractive alternative in terms of price and performance.

Corporate users, testing the waters beyond IBM, are buying compatibles to supplement their existing IBM gear. Chary of no-name, bargain-basement machines, they are taking their business to such established vendors as AT&T, Compaq, Tandy and Zenith—who last year together cornered almost 23% of the business/professional market. These vendors outfit the basic architecture of the computer with features many of the IBM machines do not include. They also have distribution networks to provide support long after the initial purchase.

As compatibles become integral parts of office systems, companies are beginning to look more closely at such issues as vendor viability and reliability. For example, at McDonnell Douglas Corp.'s Information Systems Group in St. Louis, the AT&T 6300 Plus shares the corporate standards list with the IBM PC AT. Chosen for its speed and cost, the AT&T model also comes backed by a vendor with whom McDonnell Douglas has a long-standing relationship. "AT&T has a real long-term strategy that fits with our strategy and where we're heading," says Harvey Leemon, manager of information services. "Buying them just because they are tremendously cheaper was not good business."

And the experts claim it will not be good business in 1987 either. To date, anybody with the resolve and know-how could copy the four-year old, open architecture of an IBM personal computer. With new proprietary hardware expected from IBM, Apple and Compaq, this may change, as it will be more difficult to copy state-of-the-art advances.

Also, the market should see more price cuts among the compatible manufacturers, industry observers say, and some of the marginal vendors may not survive. "They've been riding these river rapids, and now a 400-foot waterfall is approaching quickly," says Aaron Goldberg, an analyst at International Data Corp. (IDC) in Framingham, Massachusetts. "And many of the less well-managed compatible vendors will be swept away."

The 286s: More Chip Power

When IBM ushered in the second generation of PCs with its PC AT in 1984, it shifted the focus of corporate PC strategies. The brain of the AT is Intel's 80286 microprocessor, a faster and more powerful chip than the older 8088 found in the low-end PCs. "If you're looking at your machine as more than a mere computing appliance, and if you want to expand your applications several times," Goldberg advises, "then you should buy a 80286."

Today, PC AT machines outsell the PC XT in corporate markets. "The difference in price between the two is relatively negligible from the increased power that you get, especially with the compatibles," says Thomas H. Roberts, research manager of personal computer research at IDC. "None of our major corporate clients . . .is seriously considering buying a lot of 8088 or 8086-based machines; all of them are buying 80286 technology."

Here again, the compatibles are making a run on IBM. McDonnell Douglas is one of a burgeoning number of blue-chip companies—Martin Marietta, Firestone, Burlington Northern, Price Waterhouse and American Savings and Loan among them—that have bought compatibles.

A clear winner among the purveyors of 286 technology is Tandy Corp. of Fort Worth, Texas, whose 3000 series computers have sold well in the business community. As an indication of Tandy's success, Beckman Instruments, a subsidiary of Smith Kline Beckman in Brea, California, recently integrated over 75 Tandy computers with its existing IBM equipment. Dennis Born, a project su-

pervisor for the diagnostic systems group, says, "The main reason [for buying the Tandy 3000] was cost. We could get two Tandy machines for the price of one IBM PC AT . . . , and it's faster."

A relatively new company called PCs Limited, Austin, Texas, is also having noteworthy success selling high-end IBM compatibles in the business market. Though it's been in existence for less than two years, PCs Limited sold 70,000 units for $76 million in revenues in 1986. With a clock speed of 12-MHz, its 286 runs twice as fast as the original IBM PC AT and is priced at $2,695, a savings of $1,300 over the IBM machine.

Among the other manufacturers who offer 286, or AT-class machines, are NEC Information Systems, Foxborough, Massachusetts; Zenith Data Systems, Glenview, Illinois; TeleVideo Systems, Inc., and Kaypro Corp., Sunnyvale and Solana Beach, California, respectively.

The 386s: Extraordinary Speed

No sooner did the business community jump on the 80286 bandwagon than it is being forced to decide whether it needs the latest in microprocessor technology, Intel's 80386 chip—which will be to computing, enthusiasts maintain, what the jet engine was to aviation. "The 80386 offers users extremely high performance," says Stella Kelly, an analyst at research firm Dataquest in San Jose, California. "It runs at four million instructions per second, more than ten times the speed of the IBM PC."

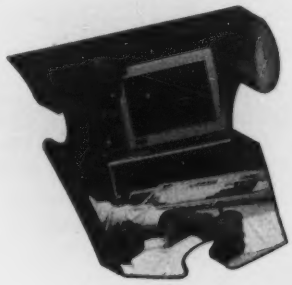
Less than nine months on the market, the 80386 has already gained extraordinary acceptance. Compaq Computer of Houston, Texas, introduced the first 80386-based PC, the Deskpro 386, last September and then sold over 25,000 of them by year's end. That's an incredible response to a PC priced at $6,500, and the majority of the machines are being bought to satisfy users' present needs, not in anticipation of future requirements. "It's being acquired by 'power users' in the corporation," Kelly explains, "financial analysts or executives who do intensive spreadsheeting and number crunching with large databases."

Although corporate users already have purchased the Compaq 386, many industry pundits are bickering over the wisdom of such a move with an IBM version due out late this year. A recent Dataquest report on 80386-based systems says, "IBM could implement performance enhancements to future 386 chip designs that would be difficult for compatible manufacturers to duplicate, giving IBM the ammunition to regain lost market share."

Among micro managers, the anxiety is less pervasive. Don Smith, partner and national coordinator for microcomputer consulting services at Price Waterhouse in Chicago, points out that he's "not concerned that IBM's version will make the Compaq obsolete." Price Waterhouse has already benefited from its 386s, which have hastened its software development efforts, he says.

At Samsonite Corp. in Denver, Colorado, where luggage is being designed on the Compaq 386, engineers applaud management's decision not to wait for IBM. The IBM PC ATs were not running Samsonite's AutoCAD—computer aided design—software fast enough, says information specialist Mick Macera. "If IBM were to introduce its unit tomorrow, and we couldn't live without it—which I doubt—all we'd be stuck with was a fast AT, and that's not so bad."

Roberts and other market watchers note that the 80386 isn't in the main-



stream of the market yet, and may not be for quite some time. "You're looking at a definite difference in pricing structure between the 386 and the 286, and that certainly makes people wonder what they are going to get for the extra money."

McDonnell Douglas' Leemon is not so sure everyone will need the added capabilities of the 386, not at the present price. "We are going to take a wait-and-see attitude. We want to see what software is developed for the 386, and the price is going to have to drop. If increased speed is all it's going to offer, then it's too pricey."

Increased competition in the 386 market is one factor that could drive prices down over the long haul. In addition to IBM's pending offering, Compaq faces competition from other manufacturers including Kaypro, Zenith and PCs Limited.

Sleeping Giant Awakens

IBM's response to these challenges has been formidable. Early last month, the computer giant introduced a new, far more powerful line of computers designed to reaffirm its leadership in the PC market. Called the IBM Personal System/2, the new line features four new computers including two units, the Model 50 and 60, that are up to two times as fast as the PC AT and sell for between $3,595 and $6,295. These machines are based on the 80286 microprocessor and have extremely good color graphics.

In addition, IBM also announced an 80386 based machine, the Model 80, which sells for between $6,995 and $10,995 and is up to 3 1/2 times faster than the PC AT. IBM has built a series of technological barriers into this machine and its other new models that will make it difficult for other U.S. and Asian manufacturers to clone this new generation.

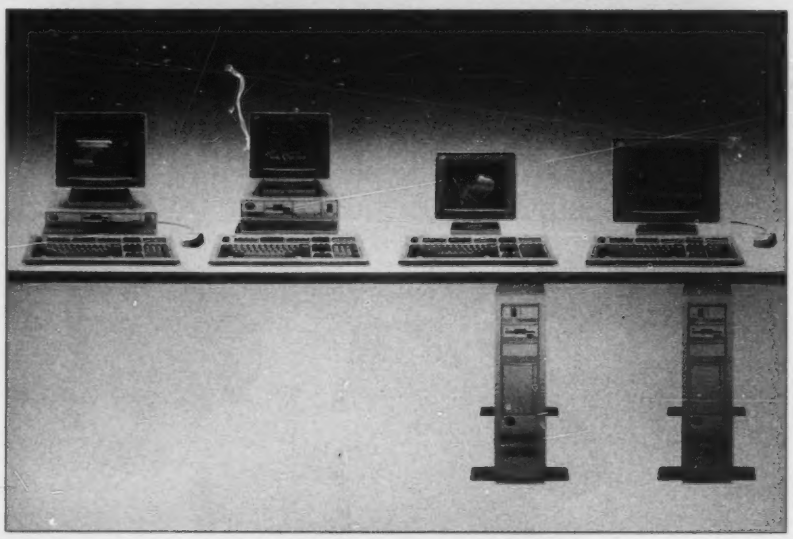
The four lowest priced models are available immediately, but one 286 model won't be shipped until July, while the 386-based model 80 won't be delivered until the fourth quarter.

Too Much, Too Soon

The usefulness of these new-generation machines is still limited. No operating software system has yet been developed for 80386-based hardware, which means that it cannot be tied into a company's network for multi-use purposes. On top of that, very little application software is yet available. "Until there is a driving reason in terms of application, corporate users will not invest heavily in the 386," IDC's Goldberg points out. "What we are typically seeing is that instead of companies buying several hundred 386 computers, they are buying maybe 20 or 30, and the rest 286s."

Here, chip technology has outstripped software development—a problem that is characteristic of a market that may be moving too fast for its own good.

IBM clones like this model distributed by Blue Chip function like PCs, but sell for much less



IBM's new Personal System/2 computers may reestablish its dominance. Pictured are Models 30, 50, 60 and 80; between two and three times faster than their predecessors.

The advent of the 80386 means that every PC product on the market is potentially obsolete. And keeping up with the new market and trying to decide which machines to buy is very time-consuming. Corporate computer users have an enormous amount of money invested in PCs and cannot afford to commit to the wrong technology. "A common mistake that users make is to buy a new product before the market has developed," says Jeffrey Ehrlich, manager of product technology at G.E. in Bridgeport, Connecticut. "You can easily end up with a PC Edsel."

With so much at stake, the experts caution, companies must look at their computing needs and develop a sophisticated strategy for buying new equipment. Goldberg advises users to look at their applications and determine exactly what they're buying a machine to do, now and later, then they decide if they're looking for a "quick fix" or making a long-term decision.

And as new products become more complex—and expensive—the answers to these questions will help corporate users thread their way through the personal computer market. Ehrlich says a company should entrust the responsibility for purchasing to managers who understand the dynamics of the industry. Salomon Brother's Preston agrees, "It's difficult for end users to keep up with the leading edge . . .they'll want to develop their PC strategies with MIS specialists."

Software: Many Claims, But Real Improvements And Price Bargains, too

If developing a personal computer strategy is important, selecting the right software to complement that strategy is indispensable. As companies focus on how better to use existing equipment, end users must consider how their data fits into the overall corporate information system. Increasingly, software solutions are bridging this gap between individual and corporate-wide data, ensuring that information flows better between people who need it.

In such areas as spreadsheet programs, relational database management systems and expert systems, software vendors are leapfrogging each other, providing customers with a steady flow of improved products and competitive prices—and a spate of *very* confusing claims. Moreover, the microcomputer industry awaits the unveiling of a new disk operating system (DOS) from Microsoft Corp. of Redmond, Washington.

This high performance system, which is being developed jointly with IBM, is designed to tap the full promise of IBM's new series of Personal System /2 computers. Even by the most optimistic estimates, however, it won't be ready until mid-1988 at the earliest.

Clones

Less expensive knockoffs of well-known spreadsheets are making headway in the corporate market. When spreadsheet clones first hit the market over a year ago, they were considered inferior and had little impact on the market. "Now, though, the quality and performance of these programs have improved to the point that they are gaining acceptance among big corporate customers," says computer analyst Richard Sherlund of the New York investment banking firm Goldman, Sachs & Co.

2-Year Comparison of Business And Professional PC User Market

Vendor	1986 Unit Shipments	1986 US Mkt Share	1985 Unit Shipments	1985 US Mkt Share
IBM	1,003,104	30.7	1,069,348	39.4
Apple	330,900	10.1	217,140	8.0
Tandy	253,050	7.7	154,350	5.7
Compaq	209,430	6.4	205,200	7.6
Leading Edge	160,000	4.9	33,000	1.2
AT&T	153,000	4.7	169,290	6.2
Zenith	112,800	3.5	82,060	3.0
Epson	84,300	2.6	1,000	0.0
HP	79,985	2.4	70,150	2.6
PC's Limited	70,000	2.1	2,500	0.1
Wang	67,925	2.1	71,250	2.6
Others	743,274	22.8	636,092	23.5
Total Business	3,266,768	100.0	2,712,000	100.0
Grand Total	6,431,251		5,689,000	

The major selling point of software clones is price. The 1-2-3 program from Lotus Development Corp., Cambridge, Massachusetts, lists for $495 and is discounted at $325 for big sales (500 units and up). Such leading spreadsheet clones as VP Planner from Paperback Software International, Berkeley, California, and The Twin from Mosaic Software Inc., also Cambridge, list for around $100 and often sell at half-price discounts. Multiplan from Microsoft Corp., Redmond, Washington, lists for $195; SuperCalc4 from Computer Association International, San Jose, for $395.

Many spreadsheet clones also add features that traditional spreadsheets don't offer. For instance, VP Planner gives users five dimensional spreadsheets, making complex time-related comparisons possible, and Multiplan allows the user to work on a spreadsheet model while it recalculates itself, reducing the time spent waiting for solutions to different sets of business parameters. For users whose primary consideration is the speed of their spreadsheet program, The Smart Spreadsheet by Innovative Software Inc., Lenexa, Kansas, has no rival, outperforming even Lotus 1-2-3 by a significant margin.

Another important product in this market is Excel, Microsoft's exceedingly successful Apple Macintosh spreadsheet. "Excel's entrance into the IBM PC market sometime this year will mean that the Lotus standard might not be so safe any more," says Peter Burris, research analyst at IDC.

Burris and other market watchers also emphasize that as companies integrate their computing systems, spreadsheet products will have to link data from the mainframe to the PC, a chore formerly left to the user. "These little spreadsheet packages are islands in a corporate structure," Burris says. "Before a corporate user spends $500,000 on spreadsheet products, he should consider what role they will play in an unfolding corporate computing strategy."

Relational Database Programs

Relational database management programs already play a central role in corporate computing strategies. And vendors are busy developing the next generation of these programs that will blend a firm's computers, from mainframe to micros, into a single integrated network. The same software will run at the PC and

mainframe levels, allowing users to access information more easily from any computer within the corporate network.

As with Lotus 1-2-3 in the spreadsheet market, dBASE III Plus from Ashton-Tate, Torrance, California, is the standard by which all other relational database systems are measured. Lotus and Microsoft are working on products to rival dBASE, but for now, such products as R:BASE

PC compatible products like the Compaq shown have become increasingly visible at large corporations

System V from Microrim, Inc., Paradox from Ansa Software, Redmond and Belmont, California, respectively, Smart Data Base Manager from Innovative Software, Lenexa, Kansas, and DataEase from Software Solutions Inc., Trumbull, Connecticut, lead the pack. Among their corporate customers are Atlantic Richfield, American Airlines, Litton Industries, Price Waterhouse and Piedmont Natural Gas.

End users generally cite ease of use as these products' main advantage, as well as the facility with which a user can program specific applications. Greg Salcedo, finance computer systems development manager at American Savings and Loan in Stockton, California, the nation's largest S&L, explains that Paradox reduced training costs because users were familiar with its Lotus-like menus. As a result, they could put Paradox to work immediately.

At the Houston headquarters of Coca Cola Foods, a subsidiary of Coca Cola Bottling, Inc., which uses R:BASE System V on a local area network servicing 65 offices nationwide, Cheryl Currid, manager of sales, systems, planning and information, says R:BASE is a highly interactive, user-friendly system, designed for the user who needs to customize his applications. "With R:BASE's application generator, a semi-literate user can write menu-driven applications without programming," she adds.

Many relational databases simpify the end user's job by using a form of artificial intelligence (AI), sometimes called natural language query systems, that eliminate the user's need to know even the rudiments of programming. Commonly known as non-procedural languages, they respond to an information request by retrieving data from corporate databases and delivering it, tailored to the specific needs of the user.

For instance, at Morris County Savings Bank in Morristown, N.J., senior executives work through Microrim's R:BASE CLOUT, which is used with the R:BASE series of databases. "It's a very powerful little program that permits our people to ask the computer questions in their own words," says Vincent N. Prehn, a senior vice president and the bank's MIS chief. "They typically use it to call up monthly variances in budget or specific items like all T&E over $100."

Despite the user-friendly interface of the current generation of relational products, experts caution that they don't permit direct PC linkage to a company's mainframe databases. They rely instead on such products as Lotus' The Application Connection (T-A-C) which allow them to transfer data files between mainframe and microcomputer databases. Burris notes that if users define their data with a highly structured product, such as one of these relational products, they may find it difficult one day to locate and use information that exists in the organization, but not on the mainframe.

The next generation of PC relational database products will make data sharing effortless. Forthcoming distributed relational products from Oracle Corp,. Cambridge; Relational Technology Inc., Alameda, California; and Information Builders, New York City, promise to connect all of a firm's computing architecture. "With these products, what works on the mainframe, will work on the mini and the micro...Data transfer will become totally transparent," notes Jim Hurd, technical director at National Software Testing Labs in Philadelphia. "Users will not have to work with outside products; the work will be done for them."

The major drawback to some of these new products, according to Hurd, is that they are designed with a computer professional in mind, not the casual executive user. Not yet, in any case. But distributed relational database products are only now hitting the market, and surprises are in store. "Distributed technology is quite simple to use at the PC level," says Kevin Gallagher, manager of public relations for RTI. "If the user is already familiar with products, he won't have to jump through hoops to access databases on minicomputers and the mainframe."

Huddling around AT&T's PC6300 Plus system to find an answer

Expert Systems: Applying Artificial Intelligence To Solve Problems

You can't tell from the picture, but a Palladian Software expert system based on AI procedures is aiding corporate decision making

Just as relational systems are making the end user's job easier, so, too, are expert systems. Expert systems use AI procedures, as do relational products, but they go a step further, offering reasoning and problem solving capabilities. Their goal is to imitate the way a human expert addresses a task, drawing similar conclusions. "Although an expert system will never replace human thinking," says Coca Cola Foods' Currid, "it'll get the user pointed in the right direction, and take over a good deal of his leg work."

Expert systems are becoming helpful financial tools, performing specific and often complicated tasks. For instance, Arthur Anderson & Co. and IntelliCorp, Mountain View, California, a front-runner in the expert systems field, have developed a system called the Financial Statement Analyzer (FSA), which scrutinizes tables and footnotes in financial statements. By looking at the financial reports of all the companies in a particular industry, says Harvey Schloss, vice president of finance at IntelliCorp, FSA can, for instance, shop around for likely takeover and merger situations.

Among the other financially oriented systems now on the market is Financial Adviser by Palladian Software, Cambridge. Designed to aid in the corporate decision making process, Financial Adviser evaluates the marketing strategy of new products: when to launch and how to position a new product against competitors. A number of expert system vendors such as Javelin Software Corp., Cambridge, and Smartsoftware Inc., Belmont, Massachusetts, offer "smart" business forecasting systems. Such blue-chip clients as 3-M, AT&T, Citibank, General Foods, Eastman Kodak and Morgan Guaranty Trust Co. are using Smartsoftware's, SmartForecasts II.

As companies devote more resources to office integration, the experts predict that they will depend more and more on AI-based expert systems and relational databases to help users handle information. "Today, executives are not getting lost in their PC databases," notes Burris. "But when they start moving beyond the computer that's perched on their desks, they'll need some form of AI-based expert systems with relational databases, severely limiting the use of expert systems to small, departmental applications. Companies had to invest time and money into customizing these bridges. New products expected from IntelliCorp, Teknowledge Inc., Palo Alto; Inference Corp., Los Angeles; and Carnegie Group, Pittsburgh, promise to alter this.

By the end of 1987, bridges will allow expert systems to access information more easily from corporate databases. As an example, KEEconnections, IntelliCorp's product, will support connections to relational databases from such vendors as Oracle, and RTI. With these advances, expert systems may become mainstream corporate tools. "In the next few years, you'll see expert systems having as significant an impact on corporate users as spreadsheeting had several years ago," predicts Morris County Bank's Vincent Prehn.

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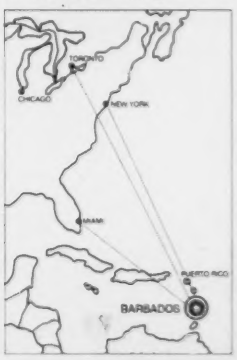

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Desktop Publishing: True Savings with Quality Printing Now Possible

One of the newest and most important developments in the PC field is the advent of desktop publishing which places the benefits of recent technological advancements right at corporate users' fingertips. By allowing a wide range of users to design, lay out and produce high-quality printed material at their own desks, desktop publishing is becoming an attractive alternative to expensive out-of-house publishing.

At the heart of the desktop publishing workstation are four major components: a PC AT with at least 512K of memory and extensive graphics capabilities; sophisticated page composition software that enables the user to combine text and graphics in a single layout file; page-description language software (PDL) that sends instructions to the printer; and a laser printer. (Users may also add a scanner to enter text and graphics into the system from outside sources.)

The four components can be combined into two distinct desktop publishing solutions: graphics-oriented Apple Macintosh and LaserWriter systems designed for desktop publishing applications, and non-graphics, IBM compatible systems that incorporate the attributes of desktop publishing by adding software, laser printer and other peripherals, such as a graphics card and color monitor.

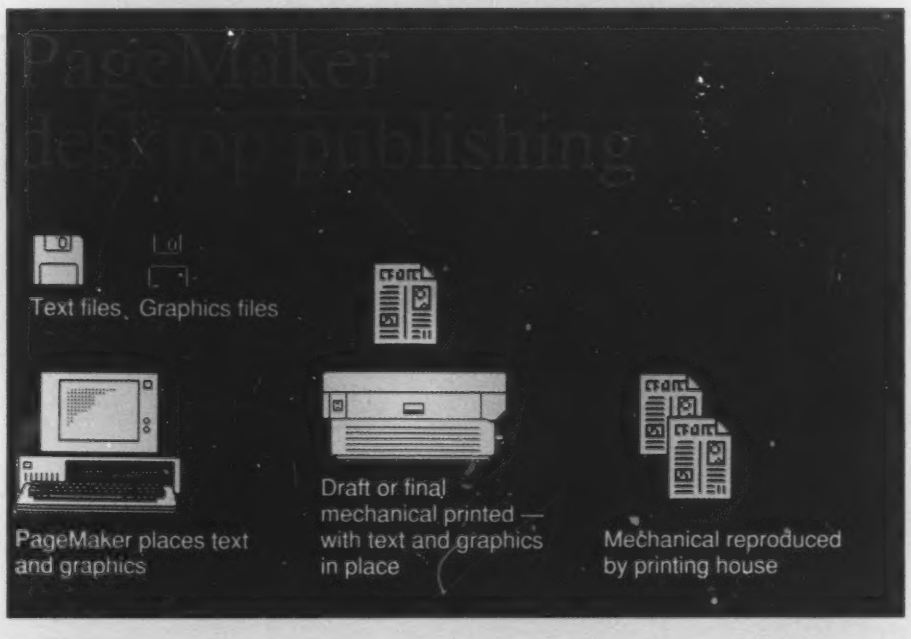
Many of these components are already seeing heavy use individually within the business community. For example, laser printers have been used to produce documents for years. But with advances in microcomputers, laser printers and software solutions, "potential corporate users have to think seriously about bringing the productivity benefits of desktop publishing to their companies," says Ajit Kapoor, director of Dataquest's Electronic Publishing Market Analysis group.

Corporate pioneers have already jumped out in front with this technology, installing in-house desktop publishing systems. Big users such as GTE Strategic Systems, a division of GTE's Government Systems Corp., have installed customized electronic publishing systems. "It's desktop publishing at its best," says Russ Hall, manager of communications services organization, "except that it's supported by about $300,000 of software [from Datalogics, Inc., Chicago] in the basement. The artistry and the discipline of the craft is all in the software." McDonnell Douglas Corp. and Boeing Aerospace Co. are discussing similar plans for 1988.

Many companies that do not wish to invest so heavily are buying desktop publishing workstations rather than developing their own integrated electronic publishing systems for substantially more money. For example, accounting firms such as Arthur Young, Price Waterhouse and Peat, Marwick, Mitchell & Co. are operating desktop publishing workstations, as well as John Hancock Mutual Life Insurance, Co., Hughes Aircraft, Arco Oil & Gas Co. and Knight Ridder Newspapers, Inc.

Big Business

Publishing is the second business of every organization. Millions of pages of information change hands every day and as much as 10% of a company's annual revenues are spent in publishing (brochures, annual reports and the like), according to David H. Goodstein, president of InterConsult, Inc. in Cambridge. "These invisible document factories are run with management and budgetary practices that would be unacceptable in a company's own business," he adds.



This flow chart from Aldus Corp. includes all the components for a typical desktop publishing system

Desktop publishing can bring considerable savings. "The page rate for typesetting is $110 to $150," says David Coleman, director of marketing communications at Arthur Young in New York. "You can do something on a desktop publishing system and laser printer—of inferior quality to professional typesetting, but acceptable for lower end publishing—for about $5 a page."

Benefits of desktop publishing systems include saving production time, gaining greater control over dozens of low-end typography projects, and decreasing out-of-pocket expenses for printing. Instead of sending manuals, proposals or even 10Ks to a typesetter, companies are preparing and editing them on PCs, and churning them out on laser printers, complete with stylized fonts and attractive layouts. Moreover, reports never leave the office, ensuring secrecy not possible before.

Arthur Young's Microcomputer Technolgoy Group, which is responsible for microcomputer support, prepares its own monthly newsletter and quarterly magazine at the desktop level, reducing the production loop of presentations. "We wanted to increase our productivity and have better control over our projects," says Pamela Davidson, a manger of the group. "There is a [conventional, in-house] printing facility, but I never use them. They're not fast enough."

One of the most vital applications for this type of publishing is the disclosure of financial information required by the SEC. "Financial departments in many companies had been at the mercy of corporate publishing timetables," notes Tim Bajarin, executive vice-president of market research firm Creative Strategies in Santa Clara. "We're hearing that they are starting to place desktop publishing workstations in financial departments." Peat, Marwick's San Francisco Report Department, for instance, uses the Macintosh for reporting financial statements.

In addition to internal savings, some companies have devised clever ways to turn their desktop publishing systems into profitable ventures. Knight-Ridder Newspapers, Inc., for example, installed Macintosh workstations at 30 of 33 newspapers, enabling its artists to generate graphics, maps, charts and line drawings and update them from an electronic library. On January 1, they started marketing their news and feature graphics, and now boast over 20 independent newspapers in their Knight-Ridder Graphics Network.

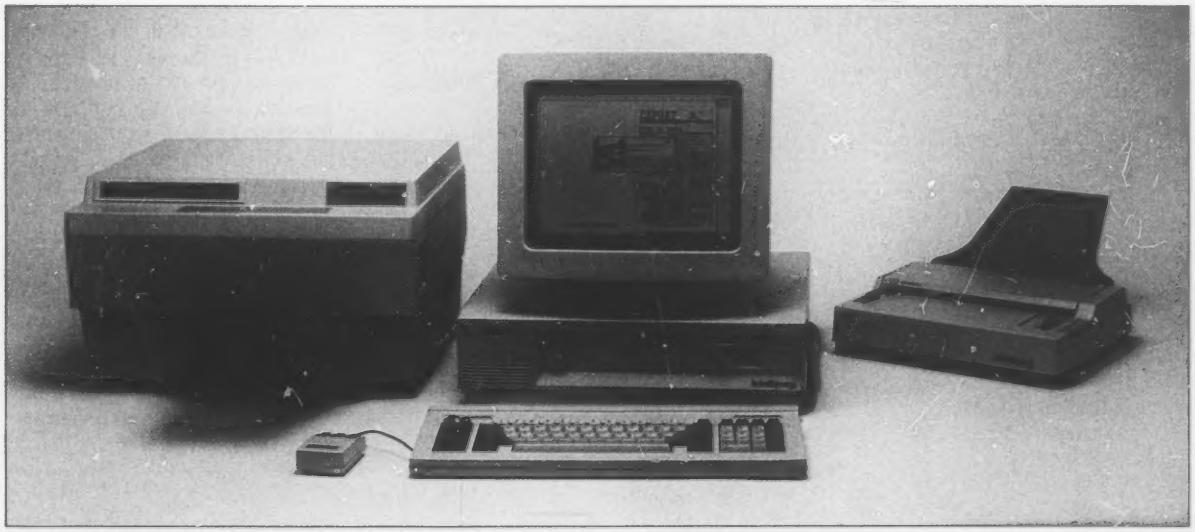
Apple's Success

To date, the success story in the desktop publishing world has been Apple Computers. Apple is the first company to sell a turnkey system supported by third party software, PageMaker from Aldus Corp., Seattle, and PostScript from Adobe Systems, Palo Alto. "Companies have the component parts, but putting them together is very difficult," says Aaron Goldberg, an analyst at IDC. "When you buy an Apple system, you hook it all together, and it does what you want it."

As more companies move into desktop publishing, executives are learning the technology

If Apple's desktop publishing efforts have one drawback, it's that the Apple capabilities aren't compatible with IBM. Dataquest's Kapoor notes, "A number of big companies have not bought the Macintosh in large quantities because it's not compatible with their existing MS-DOS equipment."

Apple, however, has introduced new products that will tie Apple to the MS-DOS world and allow it to make a run at



Even sophisticated systems require only modest desk space as Cordata's Intellipress product shows

the IBM corporate world. During the first half of 1987, it introduced AppleTalk PC Card, which allows MS-DOS personal computers to access the LaserWriter, and Apple DCA Filter Software, which translates documents from MS-DOS word processing applications to and from MacWrite, Apple's word processing software.

With Apple's success, other hardware and software vendors are moving to tap the MS-DOS world, the fastest growing market for desktop publishing. The most bullish projections for the future of desktop publishing are from Dataquest's Kapoor, who predicts sales for software, hardware, laser printers and scanners will total over $4.8 billion in 1990—nearly $3.5 billion (or over 70% of the total) for MS-DOS-based sales alone. By comparison, in 1986, Macintosh-type products outsold IBM-type products, reaping over $250 million, or 80% of the industry's $306 million sales.

Several companies are in line to cash in on this boom. Hewlett-Packard, Palo Alto, which has the largest installed base of laser printers with over 200,000 LaserJets, recently announced an alliance with Aldus and Microsoft to market a complete desktop publishing solution for the PC market. The solution includes Aldus' PC PageMaker, Microsoft's Windows, HP's Vectra and LaserJet PLUS printer. Xerox Corp. is also marketing a desktop publishing workstation solution, while Cordata Technologies, Inc., Thousand Oaks, California, offers fully integrated PC-based desktop publishing systems. Market watchers expect to see an IBM desktop publishing system, but Big Blue is keeping mum.

Corporate users, equipped with a graphics-enhanced IBM-compatible PC and a laser printer, can now purchase inexpensive and easy-to-learn desktop publishing software solutions. While a full-blown Apple system runs for around $10,000, one of these packages can run for as little as $695 . . . PC PageMaker, for example. Today, there are over a dozen such packages. Along with PC PageMaker, the early leaders in MS-DOS software development are Ventura Publisher from Ventura Software, Morgan Hill, California, and Harvard Publisher from Software Publishing, Mountain View, California.

Bajarin and other market watchers say that Macintosh-type products guarantee a standard not yet established among the MS-DOS vendors. But they add that IBM-based users may want to protect their PC investments by purchasing MS-DOS software. An MS-DOS product by Ashton-Tate may change all that. "If the corporate executive is used to word processors, this Ashton-Tate product will be one that will help him get into desktop publishing overnight," says Bajarin.

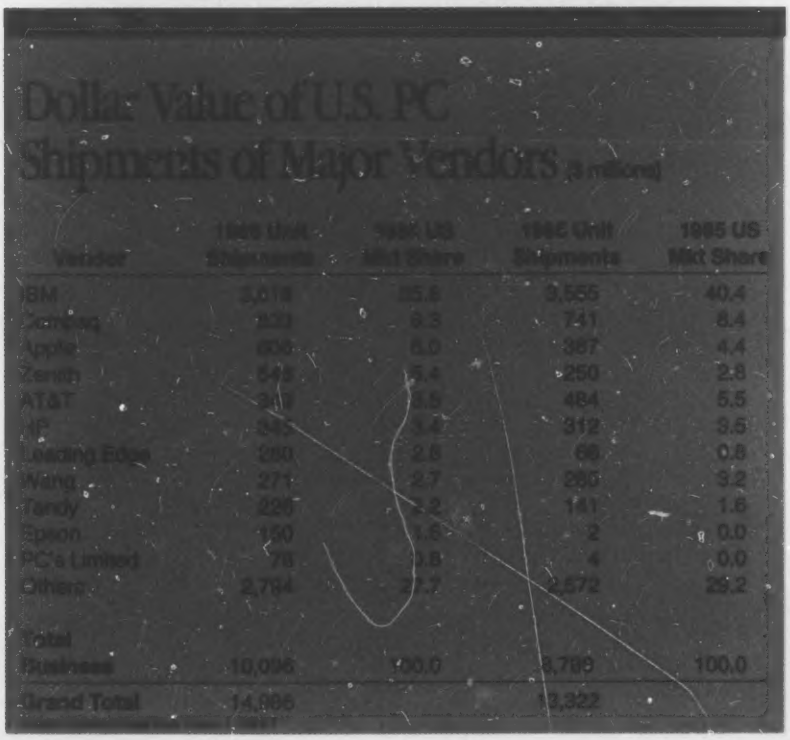
Laser printers, the latest component of a desktop publishing workstation, have come a long way since Hewlett-Packard first introduced its moderately priced LaserJet over two years ago. Today, a tidal wave of vendors is offering new features and improved laser engines, at prices competitive with high-end daisywheels. For example, QMS Kiss from QMS Inc., Mobile, is the first laser printer to break the $2,000 barrier, and a passel of laser printers can be found for under $3,000, including models from Qume Corp., San Jose, and Blazer Industries, Los Angeles. And improved laser printers—with higher quality output and increased speed—can be expected soon.

Go Slowly

With so many new products about to hit the market, a few end-users advise adopting a wait-and-see attitude about desktop publishing. "I would go slowly and don't buy too much until you know exactly what your needs are and what the software is that's going to evolve out there to meet those needs," says Price Waterhouse's Don Smith.

Desktop publishing promises to play a significant role in corporate computing strategies. But experienced users offer a note of caution about this emerging technology: before installing large numbers of workstations, implement a system of control and standards within the organization. As with PCs when they first hit the business community, a plethora of desktop publishing systems can create management problems for a firm. "If you give people a PC and a laser printer, they're going to climb up the nearest tree, and you'll never see them again," says GTE's Hall. "With a decentralized desktop publishing system, you have to hire a manager to maintain control over it."

Arthur Young's Coleman agrees: "The scenario [of a decentralized desktop publishing system] is a potential nightmare." Without a strong support structure within an organization, Coleman adds, desktop publishing can be like "a kid playing chopsticks compared to Arthur Rubinstein on a Steinway."



Creative Report by Leon McCarthy, who writes the Managing Technology column for Business Month, and Van Mataxas, a Washington, D.C. based freelance writer. Design: Kallman & Dubois, Inc.

While Warner is not undiscovered, "given the ebullient market, this is the kind of stock that can go far," he says.

The preferreds carry a 17.5% premium and a 5.8% yield, versus the 1.3% yield on Warner common. If CD earnings begin to take off, Friedman expects the convertible to climb 50%. The common recently traded at 31.

One reasonably priced new issue is Chicago-based Inland Steel Co., which just launched a joint venture for a rolling mill with Nippon Steel Corp. The steel industry has been "a terrible investment for the last twenty years," Friedman says. But he sees a real change in the fundamentals: a lower dollar, cost cutting and automation. "My guess is that the steel industry will begin to pick up market share and earn higher profits," he says.

As one of the better managed steel companies, Inland stands to gain as much as 10%-to-50%. The convertible has a 6% yield, versus no yield on the stock. Friedman would be a buyer in the low 50s. —L.N.

INVESTMENT UPDATE

Here's the current status of a number of investments, and a look at how they have fared over the past month and the past year.

INVESTMENT	(3/31/87) Recent Price or Yield	Value of $10,000 if invested: Month Earlier	Year Earlier
Common (Index fund, capital gains and dividends reinvested)	$ 29.23/share	$10,289	$12,552
per cent change		+2.9%	+25.5%
Bonds (30-yr., 11¾% Treasury Bond)			
MARKET VALUE	$133.31	$ 9,640	$9,510
ACCUMULATED INCOME		$ 71	$ 838
TOTAL		$ 9,711	$10,348
per cent change		-2.9%	+3.5%
Money Market Fund	5.39%	$10,046	$10,583
per cent change		+0.6%	+5.8%
Gold (Krugerrands)	$425.00/oz.	$ 411.30	$ 336.10
per cent change		+3.3%	+26.5%
HOUSE PRICES	**Recent**	**Month Earlier**	**Year Earlier**
Existing House	$116,900	$115,700	$105,600
per cent change		+1.0%	+10.7%
New House	$127,100	$135,600	$108,200
per cent change		-6.3%	+17.5%

Sources: Vanguard Group Inc.; Salomon Brothers; Donoghue's Money Fund Report; Manfra, Tordella & Brookes, Inc.; Federal Home Loan Bank Board.

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